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Lesica, Peter  
Vascular plant and sensitive  
plant species inventory for the  
Highland mountains Deerlodge  
National Forest

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VASCULAR PLANT AND SENSITIVE PLANT SPECIES INVENTORY  
FOR THE HIGHLAND MOUNTAINS  
DEERLODGE NATIONAL FOREST

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## INTRODUCTION

The National Forest Management Act of 1976 mandates the protection of biological diversity on National Forest lands. One response to this mandate has been the development of sensitive species programs throughout the national forest system (Reel et al. 1989). Each national forest is required to protect the viability of sensitive species found within its bounds. Numerous plants that are listed as sensitive in the U.S. Forest Service Region One occur in the mountain ranges of southwest Montana (Lesica and Shelly 1991).

The Highland Mountains are a small alpine mountain range in southwest Montana. Much of this range is land administered by Deer Lodge National Forest. In spite of The Highland's proximity to Butte, there has been little botanical exploration of the area. Recently, Klaus Lackschewitz made collections in the area and discovered populations of Carex idahoensis and Eriogonum gracilis, but the size and extent of these populations was not reported. The Highland Mountains receive a great deal of use by recreationists as well as having mining, timber harvest and livestock grazing activity. In order to manage the Highland Mountains for the protection of biological diversity, the Forest Service must know which sensitive species are present, what habitats they occur in, and how common they are. The purpose of this study was to survey the Highland Mountains for sensitive plant species and report the size, location and habitat for these species. In addition, a complete list of all vascular plant species encountered during this study was prepared. This list will be useful to managers doing other studies in the area.

## STUDY AREA

The Highland Mountains are a small alpine range in southwest Montana, just south of Butte. They lie between the Big Hole River and the Jefferson River on the south and east respectively, and they contain the headwaters of Silver Bow Creek and the Clark Fork River. The main divide ridge of the Highland Range is the Continental Divide. It runs between Red Mountain at 10,070 ft on the north, and Table Mountain at the south end, which is the highest peak at 10,200 ft. Slopes on the north, east and south sides are relatively steep, and streams and glaciers have formed canyons dropping to the main river valleys. On the west side of the divide there is a large plateau that is the headwaters of Moose Creek. Part of this plateau is referred to as Moose Town, while the northwest portion is called Burton Park. Low mountains (7,000-8,000 ft) surround Moose Town and Burton Park on the north, west and south sides. Low mountains on the west are called the Humbug Spires (Fig. 1)





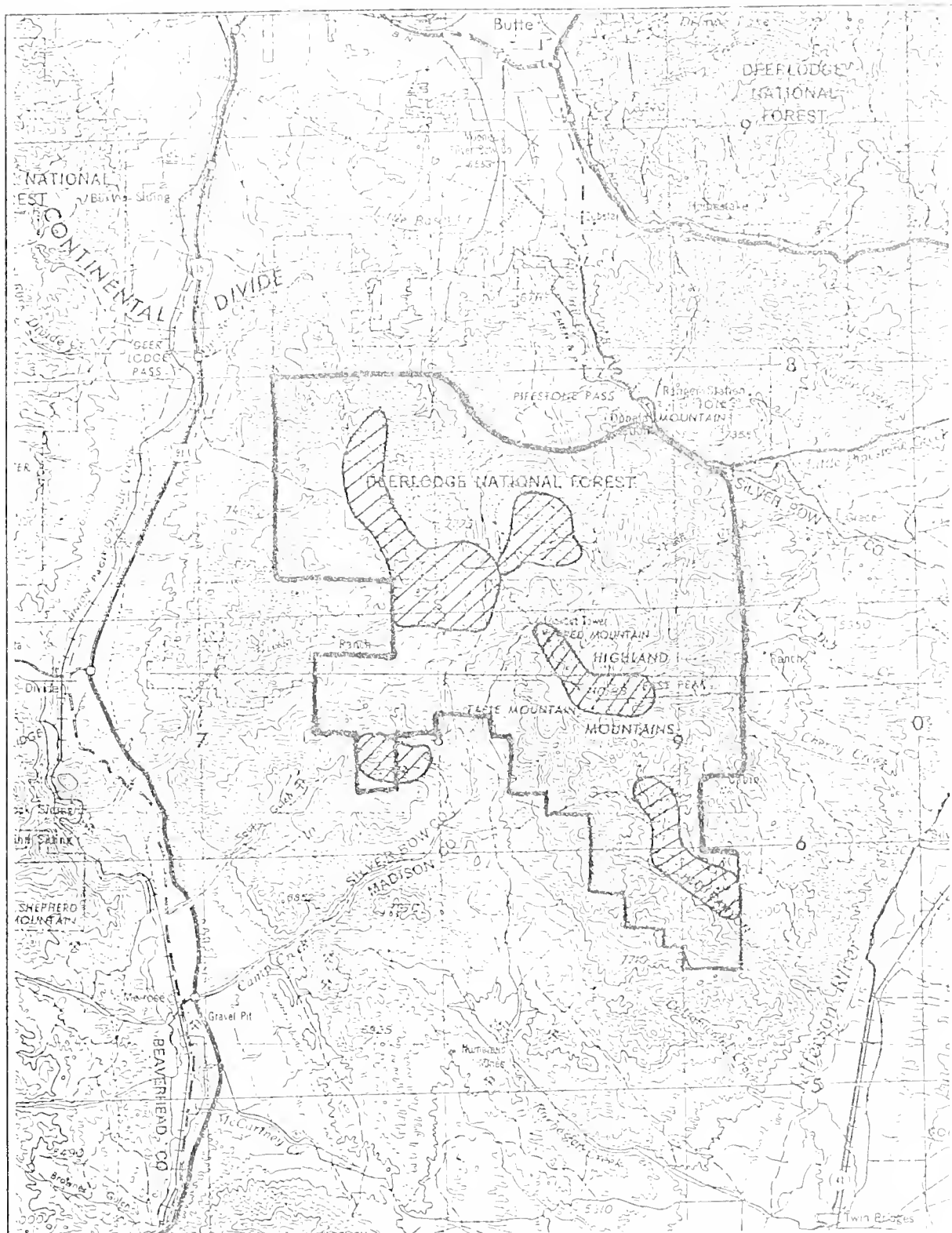


Figure 1. Map of Highland Mountain region and the areas surveyed for sensitive species.



The core of the Highland Mountains is formed of Precambrian basement rock in the south and granite of the Boulder Batholith in the north (Alt and Hyndman 1986). The Humbug Spires are low mountains formed of this granite. A band of calcareous Belt Series sedimentary rock, 5-10 miles wide runs from near the town of Divide west to just east of the Continental Divide (Alt and Hyndman 1986). The crest of the Highland Mountains are argillite on the north near Red Mountain and quartzite and granite in the south around Table Mountain. Soils at 6,000-7,500 ft throughout most of the north portion of the area are derived from granite and are coarse-textured and well-drained. Soils in the south are derived from metamorphosed sedimentary rocks and are more silty or loamy in texture. Calcareous soils occur sporadically in the Moose Town area and just east of the Continental Divide in the Lime Kiln Hill and head of Fish Creek area (Fig. 1). Soils near or above timberline are generally shallow and poorly developed. Small cirques along the main divide suggest that the core of the range was glaciated during Pleistocene times.

Climate of the Highland Mountains is continental-montane with short, cool summers and long, cold winters. Butte, at 5,540 ft on the north side of the Highland Mountains, had mean July maximum and mean January minimum of 80.1 and 3.7°F respectively from 1950 to 1980 (NOAA 1982). During this same period mean annual precipitation was 11.7 inches. Divide, at 5,406 ft on the west side of the study area, had mean July maximum and mean January minimum of 79.4 and 8.5°F respectively from 1950 to 1980 (NOAA 1982). During this same period mean annual precipitation was 12.4 inches. Precipitation in the Highland Mountains is estimated to vary from 16-30 inches per year based on snow course records (USDA-SCS 1981). June is the wettest month. Approximately half of the precipitation falls as snow during the winter.

Vegetation of the Highland Mountains is predominantly coniferous forest dominated by Douglas fir (Pseudotsuga menziesii) and lodgepole pine (Pinus contorta). Spruce (Picea engelmannii) is common along streams and higher cool slopes. Whitebark pine (Pinus albicaulis) dominates subalpine and timberline forests. Limber pine (P. flexilis) is locally common on outcrops of calcareous parent material in the Moose Town and Fish Creek areas. Where granite is the parent material, coniferous forest generally dominates on all aspects (narrow mesas above Hells Canyon Creek are an exception). On soils derived from metasediments, steppe dominated by sagebrush (Artemisia tridentata), rabbit brush (Chrysothamnus spp.), shrubby cinquefoil (Potentilla fruticosa) and Idaho fescue (Festuca idahoensis), occurs on warm slopes. Meadows dominated by tufted hairgrass (Deschampsia cespitosa) and sedges (Carex spp.) are common in Moose Town and Burton Park. Swamp and carr vegetation dominated by bog birch (Betula glandulosa) and willows (Salix spp.) are found along many drainages and in large areas of



Moose Town. Groves of aspen (Populus tremuloides) occur sporadically in the Moose Town area.

The Highland Mountains have been greatly impacted by human use. The area was the scene of a great deal of mining exploration. There are numerous old mines and associated roads in the Moose Town and Fish Creek areas. Concentrations of precious metals are presumably associated with the contact zone between the Belt sediments and the granite batholith. There is an active mining operation near the head of Fish Creek. Wherever steppe or meadows are the predominant vegetation, cattle grazing is a common use of the land. Douglas fir composing much of the forests are short and often deformed, but some areas of lodgepole pine forest have been clearcut. In addition, some trees have been harvested for firewood and lumber during the times when the area was a more active mining district. The Highland Mountains-Moffet Mountain-Moose Town area is a very productive wildlife area. I observed large numbers of elk, moose, deer, bighorn sheep and mountain goats. As a result, the area is heavily used by hunters during the fall. There is a good deal of recreational driving both on and off roads during the summer. The area is undoubtedly used by snowmobilers during the winter.

#### METHODS

For the purpose of my study, the Highland Mountains are defined as land administered by the U.S. Forest Service and private inholdings above 6,000 ft south of Pipestone Pass and Hwy 10, west of the Jefferson River Valley, and east and north of the Big Hole River Valley. I surveyed the Highland Mountains on June 25-July 6, 1992 and July 31-August 3, 1992. I concentrated my surveys in five areas (Fig. 1): (1) Moose Town/Burton Park - an abundance of wetlands and outcrops of calcareous parent material, (2) Fish Creek/Limekiln Mountain - numerous outcrops of calcareous parent material, (3) Red Mountain/Table Mountain - expansive alpine habitat, (4) Moffet Mountain - expanses of sagebrush steppe and high elevation grasslands, and (5) Hells Canyon Creek - coarse granitic soils and sagebrush steppe. I conducted my surveys by hiking transects through each area, inspecting typical habitat as well as unusual edaphic or topographic features. I recorded all vascular plant species observed and made representative collections of many species. I completed Montana Natural Heritage Program (MNHP) "Plant Species of Special Concern" forms for all species on the most recent MNHP list, and I completed MNHP-modified ECODATA forms for representative plant communities harboring species listed as sensitive in Region One of the U.S. Forest Service (Lesica and Shelly 1991).

Vascular plant nomenclature generally follows Hitchcock and Cronquist (1973). Nomenclature for willows follows Dorn (1984).



Information on nomenclature for sensitive species and "species of special concern" can be found in Lesica and Shelly (1991). Specimens are deposited in the herbarium of the University of Montana (MONTU).

In 1992 I received a separate contract from Deerlodge National Forest to conduct floristic surveys of the Table Mountain area. The results of that study (Lesica 1992) have been included in this report.

## RESULTS

I recorded 526 species of vascular plants in 52 families from the Highland Mountains (Appendix A). Of these, seven are listed as sensitive in Region One of the U.S. Forest Service: Arabis fecunda, Carex idahoensis, Juncus hallii, Orobancha corymbosa, Penstemon lemhiensis, Saxifraga tempestiva and Thlaspi parviflorum. Five additional species are listed as species of special concern by MNHP: Carex vallicola, Erigeron gracilis, Gentiana aquatica, Haplopappus macronema ssp. linearis and Ranunculus verecundus. Information on the occurrence of these species in the study area is given below. Additional information can be found in the MNHP element occurrence records in Appendix B. Copies of ECODATA forms for all sensitive species sites can be found in Appendix C.

Element Name: Arabis fecunda Rollins

Common Name: Sapphire rockcress

Range: Endemic to the Sapphire, Pioneer and Highland mountain ranges of Beaverhead, Ravalli and Silver Bow counties, Montana.

Element Rank: G2/S2

Federal Status: USFWS C2, USFS Region 1 Sensitive

Local Occurrence: Two populations of A. fecunda occur in the Moose Town area and two were found in the Fish Creek area (Fig. 2,3). Moose Town populations were estimated at 1,000-2,000 plants, while those in the Fish Creek area are larger, with 5,000-10,000 plants. All populations occur in mineral soil derived from metamorphosed calcareous sediments on south- or west-facing slopes. Associated plant communities are sparse Agropyron spicatum grasslands or very open limber pine woodland.

Although apparently appropriate habitat occurs on Limekiln Hill, I was unable to locate the species in the area.

Comments: All four populations occur in areas where there has been extensive mining exploration, and the southern Fish Creek





Figure 2. Populations of (A) Arabis fecunda, (E) Carex idahoensis, (C) Erigeron gracilis, (D) Juncus hallii, (E) Penstemon lemhiensis and Thlaspi parviflorum in the Moose Town area.

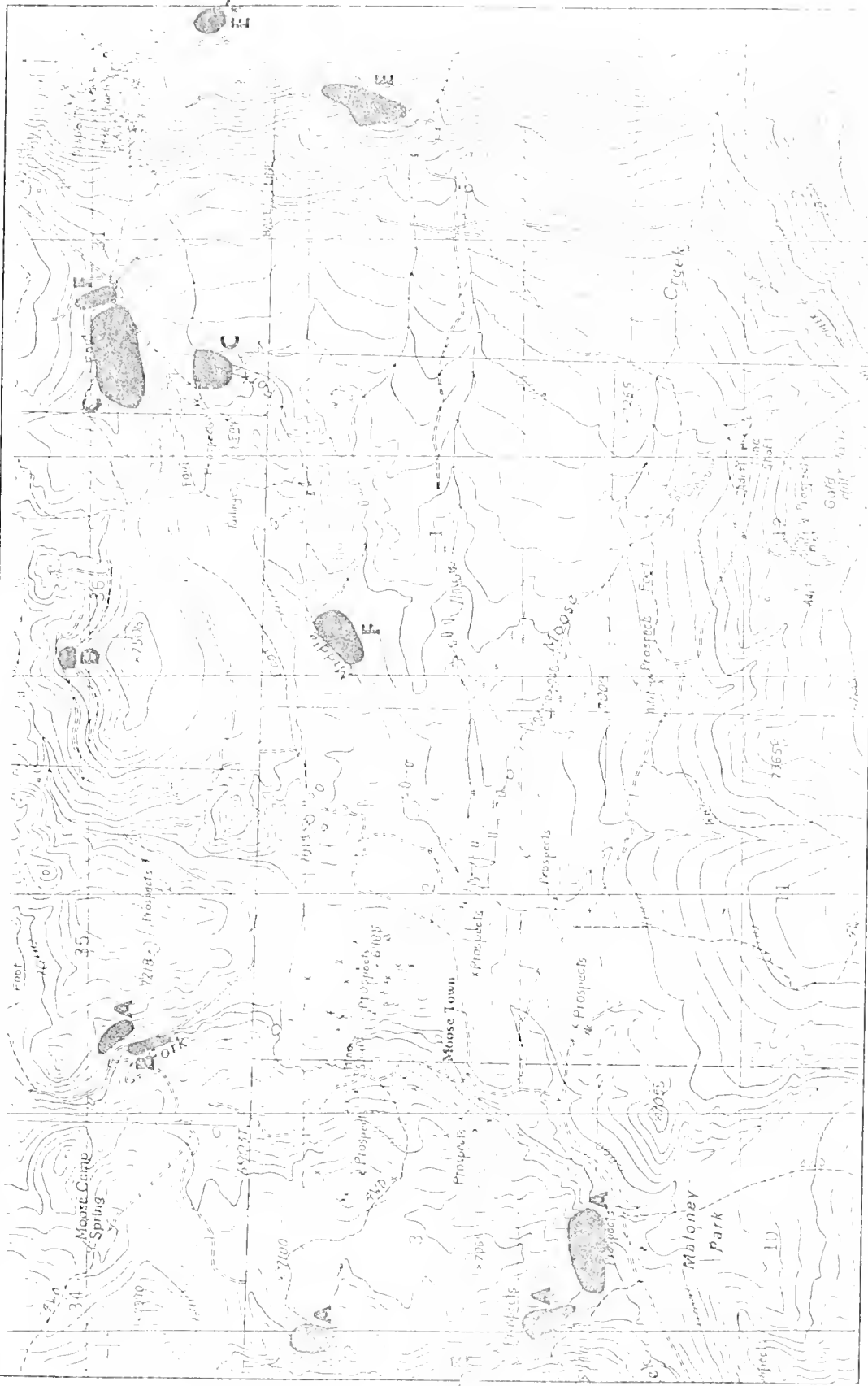




Figure 3. Populations of (A) *Arabis fecunda*, (B) *Carex idahoensis*, (C) *C. vallicola*, (D) *Erigeron gracilis* and (E) *Gentiana aquatica* in Fish Creek area.





population is within 1 mile of an active mine. Mining is probably the principal threat to A. fecunda in the study area. In addition, the northern Moose Town population is in close proximity to a major road and may be threatened by future road construction. Finally, the areas are subject to livestock grazing, but disturbance appears to be moderate at this time and is probably not detrimental to the species. These populations are on the eastern edge of the known range of the species.

Element Name: Carex idaho (Bailey)

Common Name: Idaho sedge

Range: Beaverhead, Madison, Powell and Silver Bow counties, Montana and southeast Idaho

Element Rank: G2Q52

Federal Status: USFWS 3C, USFS Region 1 Sensitive

Local Occurrence: I relocated the population in the Moose Town area and discovered another in the Fish Creek area (Fig. 2,3). Both populations occur in drier ecotonal areas of wet meadows along streams in areas influenced by calcareous parent material. Both populations contain fewer than 100 plants. The associated plant community is Potentilla fruticosa/Deschampsia cespitosa.

Comments: This plant is also referred to as Carex parryana Dewey ssp. idaho (Bailey.) Murray.

I searched for this plant throughout the study area, but located only these two populations. However, populations are usually small, and I may not have located all of them. Nonetheless, C. idaho does seem to be rare in the study area. Populations may be threatened by livestock grazing. In addition, the Moose Town population is immediately adjacent to a main road and could be threatened by road construction.

Element Name: Juncus hallii Engelm.

Common Name: Hall's rush

Range: Southwest Montana and southern Idaho south to Colorado. In Montana this species is known from Madison, Meagher, Powell and Silver Bow counties.

Element Rank: G4G5/S2

Federal Status: USFS Region 1 Sensitive

Local Occurrence: I located one population of J. hallii in the Moose Town area (Fig. 2). Unfortunately I was unsure of the



identity of the plant when I collected it and did not take extensive information on the site. It occurs in moist soil on the drier margins of a wet meadow adjacent to an old logging road. Before the area was logged this meadow was in a matrix of moist spruce forest. My impression is that the population was small, probably less than 200 plants.

Comments: At this site J. hallii occurs near a population of J. tenuis, and the two species can be confused. The logging road through the area may have impacted this population when it was built, and timber harvest undoubtedly altered the hydrologic regime of the site.

Element Name: Orobanche corymbosa (Rydb.) Ferris

Common Name: Flat-topped broomrape

Range: Southern British Columbia to southwest Montana, south to California, Nevada and Utah. In Montana the species is known from Beaverhead, Madison and Ravalli counties.

Element Rank: G4/S2

Federal Status: USFS Region 1 Sensitive

Local Occurrence: I located one population of O. corymbosa in the Hells Canyon Creek area (Fig. 4). Plants occurred in coarse-textured, granitic soil on gentle slopes of mesas on the northeast side of the canyon. The population consists of three subpopulations, all within 1 mile of each other. I estimated that at least 2,000 plants occur between these three subpopulations. Associated plant community is Artemisia tridentata/Festuca idahoensis.

Comments: Although similar habitat exists both north and south of the three subpopulations, I was unable to locate any plants in these areas. Additional populations may occur on BLM or private land to the west and south of the study area.

I am not aware of any threats to this population of O. corymbosa.

Element Name: Penstemon lemhiensis (Keck) Keck & Cronq.

Common Name: Lemhi beardtongue

Range: Endemic to Beaverhead, Ravalli and Silver Bow counties, Montana and Lemhi County Idaho

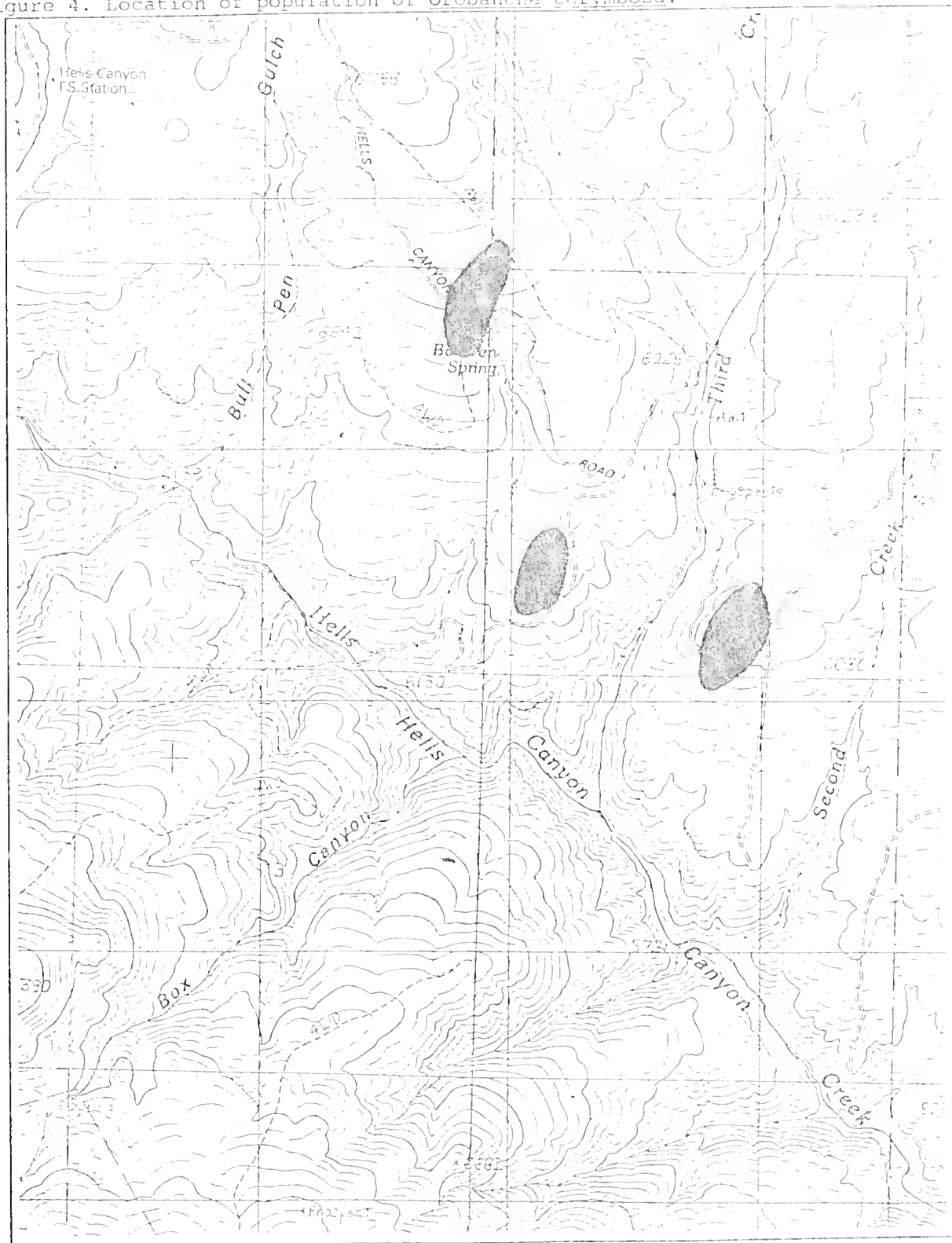
Element Rank: G2/S2

Federal Status: USFWS C2, USFS Region 1 Sensitive





Figure 4. Location of population of *Orobancha corymbosa*.





**Local Occurrence:** I discovered two populations of P. lemhiensis in the Moose Town area (Fig. 2). The eastern population consists of two subpopulations on opposite sides of a hill. Both populations occur in relatively sparse vegetation on soil derived from calcareous metasediments. Both populations were estimated to be 100-200 plants. Nearly all plants in the western population had been grazed down to near the base of the plant, probably by deer or elk but possibly by livestock. The associated plant community was Festuca idahoensis/Agropyron spicatum grassland. In addition to these two populations, I observed 3-5 plants on a roadcut ca. 1/2 mile south of Fish Creek (T1N R7W S33, NW1/4 of SW1/4). Plant were present only in disturbed soil immediately adjacent to the road so I did not map or document this occurrence.

**Comments:** Penstemon lemhiensis occurs in areas that are subject to both mining activity and livestock grazing. Although P. lemhiensis is probably enhanced by low or even moderate levels of disturbance, both mining development and grazing could be a threat to this species. These populations are on the eastern edge of the known range of the species.

**Element Name:** Saxifraga tempestiva Elvander & Denton

**Common Name:** Storm saxifrage

**Range:** Endemic to Beaverhead, Deer Lodge, Granite, Ravalli and Silver Bow (?) counties, Montana

**Element Rank:** G2/S2

**Federal Status:** USFS Region 1 Sensitive

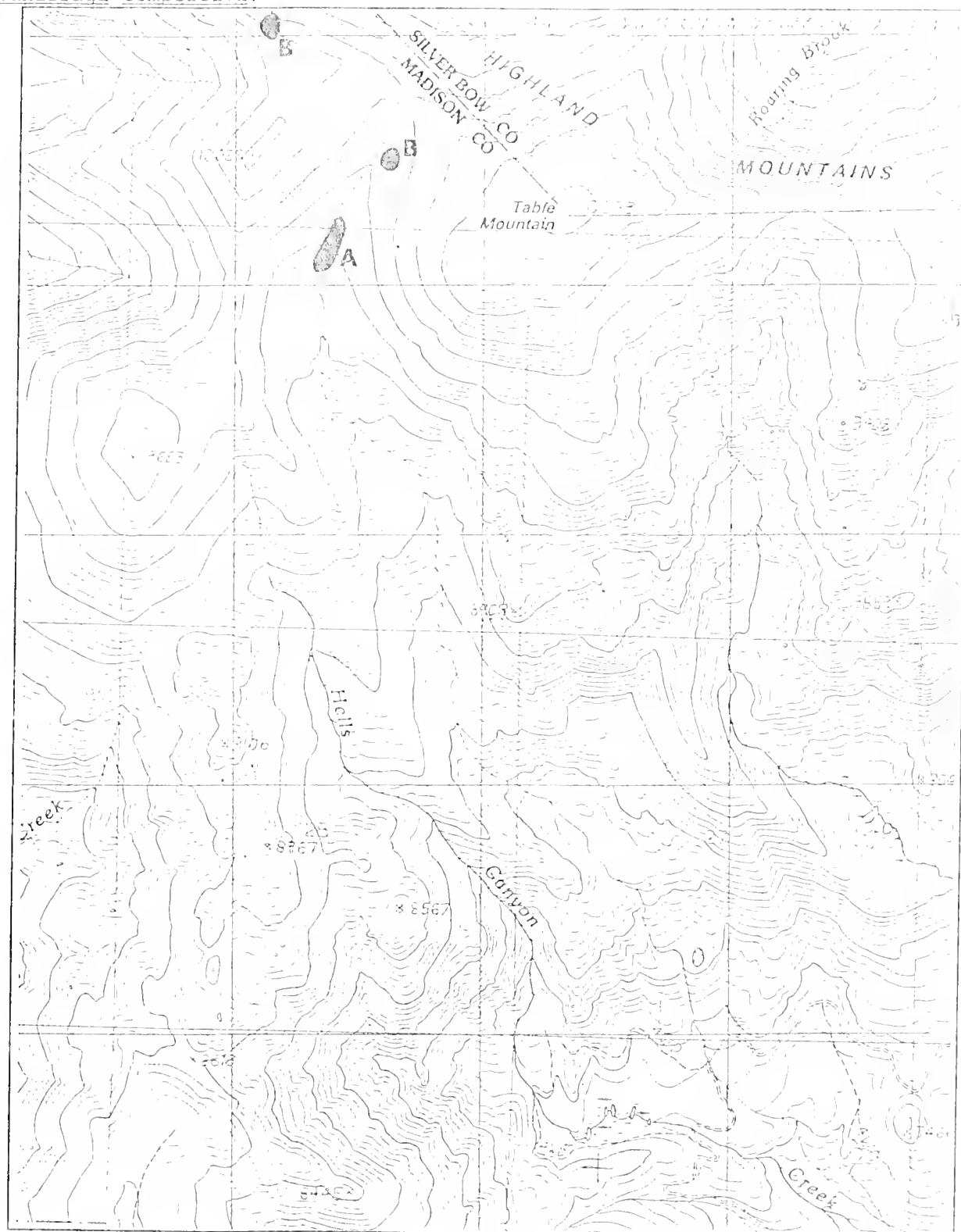
**Local Occurrence:** I located two subpopulations of S. tempestiva on the west flank of Table Mountain (Fig. 5). Both sites were snow cachement areas on relatively gentle terrain. The population was estimated to be fewer than 300 plants. Associated plant community was Geum rossii turf.

**Comments:** Plants at the Table Mountain site appear intermediate between S. tempestiva and S. rhomboidea and may be a hybrid population (see Lesica 1992 for further discussion).

The area is subject to few direct human-caused disturbances. However, grazing by bighorn sheep in the area is intense, and this level of grazing may be having an impact on the vegetation. Bighorn sheep may be overusing this remote part of their range because of intense ORV use of lower, more accessible areas (Lesica 1992).



Figure 5. Location of populations of (A) *Ranunculus verecundus* and (B) *Saxifraga tempestiva*.





Element Name: Thlaspi parviflorum A. Nels.

Common Name: Small-flowered pennycress

Range: Endemic to southwest Montana, northwest Wyoming and central Idaho. In Montana this species is known from Beaverhead, Madison, Park and Silver Bow counties.

Element Rank: G3/S2

Federal Status: USFS Region 1 Sensitive

Local Occurrence: I located two populations of T. parviflorum in moist grasslands and meadows on gentle slopes or alluvial terraces in the Moose Town area (Fig. 2). The eastern population occurred in a somewhat drier site and was estimated at 100-1,000 plants. The western site was estimated at 1,000-10,000 plants. Associated plant communities are Potentilla fruticosa/Festuca idahoensis and Potentilla fruticosa/Juncus balticus.

Comments: I searched extensively for this species in the Moose Town area, but in spite of large areas of apparently potential habitat, I located only two populations. However, T. parviflorum is inconspicuous unless it is blooming, and it blooms very early and has completely disappeared by mid-summer. Thus, I may not have located all populations in the study area.

Both T. parviflorum sites are subject to livestock grazing. The effects of grazing on the species are not known.

Element Name: Carex vallicola Dewey

Common Name: Valley sedge

Range: Eastern Oregon to southwest Montana and western South Dakota, south to California, Utah and Mexico. In Montana the species is known from Beaverhead, Gallatin, Lewis & Clark, Madison, Park and Silver Bow counties.

Element Rank: G5/S2

Federal Status: None

Local Occurrence: I located one population of C. vallicola in mesic high-elevation grassland in the Limekiln Hill area (Fig. 3). The population was estimated to be 100-1,000 plants. The associated plant community is Festuca idahoensis/Agropyron caninum.

Comments: This small population of C. vallicola is in an area that has extensive mining exploration. The area is also subject





to livestock grazing. The plant is highly palatable to livestock and decreases with overgrazing (Hermann 1970).

Element Name: Erigeron gracilis Rydb.

Common Name: Slender fleabane

Range: Endemic to Southwest Montana, western Wyoming and east-central Idaho. In Montana the species is known from Beaverhead, Park, Silver Bow and Sweetgrass counties.

Element Rank: G4/S2

Federal Status: None

Local Occurrence: I located populations of E. gracilis in the Moffet Mountain, Moose Town and Fish Creek/Limekiln Hill areas (Figs. 2,3,6). The plant appeared to be widespread throughout much of the Highland Mountains in silty to loamy soils of mesic to moist steppe and grasslands. Populations were all estimated to be larger than 1,000 plants. Associated plant communities are Artemisia tridentata/Festuca idahoensis (Geranium phase) and Potentilla fruticosa/Festuca idahoensis.

Comments: Erigeron gracilis was common enough in the study area that I did not purposely look for it but mapped only occurrences that I observed while surveying for other species. It is probably not threatened in the study area.

Element Name: Gentiana aquatica L.

Common Name: Wet meadow gentian

Range: Southern Alberta and Saskatchewan south to Colorado; also in Asia. In Montana the species is known from Beaverhead, Madison and Silver Bow counties.

Element Rank: G4/S2

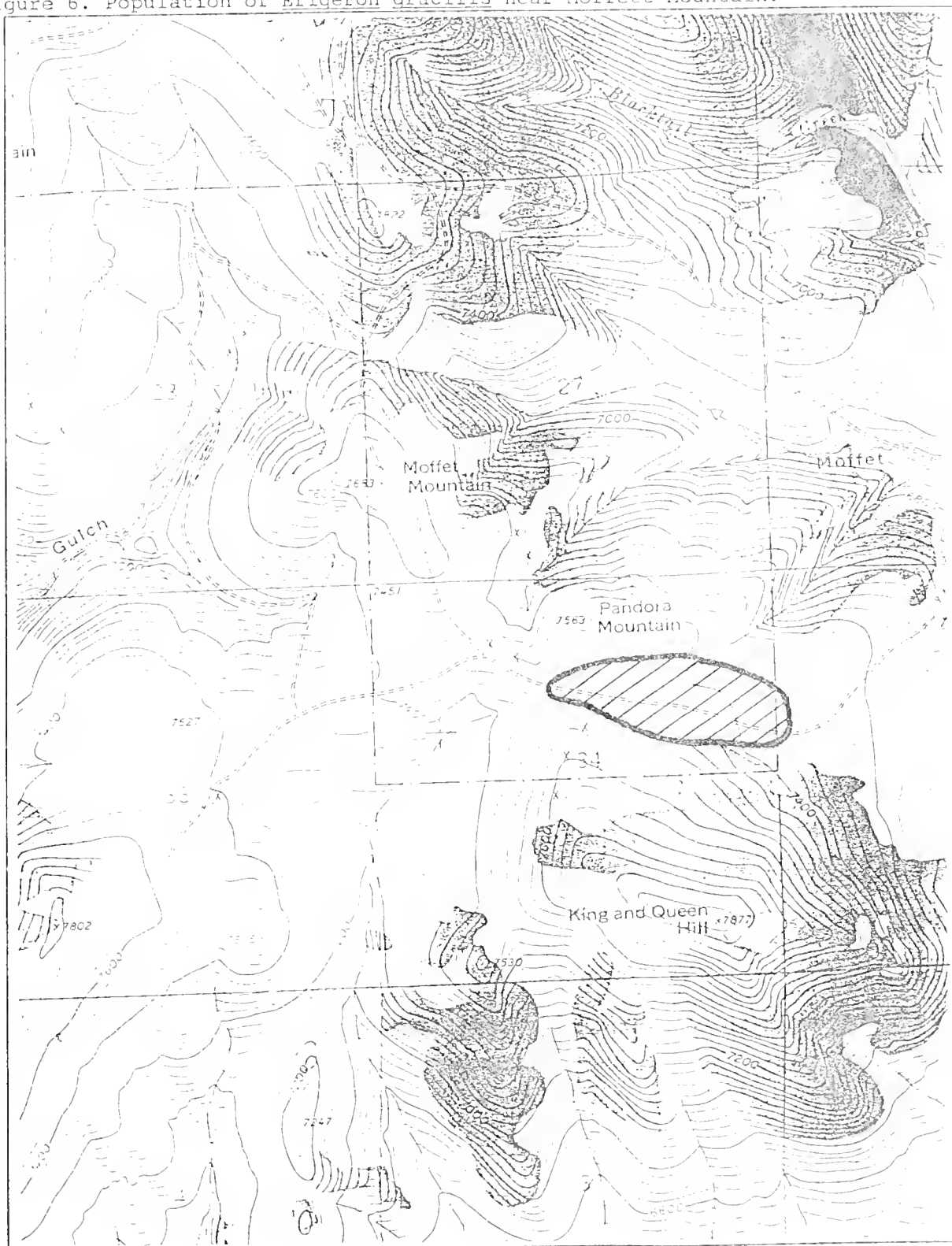
Federal Status: USFWS 3C (under synonym of G. fremontii)

Local Occurrence: I located one population of G. aquatica in the Fish Creek area, in the same meadow as Carex idahoensis (Fig. 3). The species occurs on shrub-dominated hummocks in an alkaline meadow along a small stream. Associated plant community was Potentilla fruticosa/Deschampsia cespitosa. I estimated the population to be greater than 1,000 plants.

Comments: This meadow is subject to livestock grazing. Trampling of this wet site resulting from overuse by livestock



Figure 6. Population of *Erigeron gracilis* near Moffett Mountain.





could degrade the site and negatively impact the G. aquatica population.

Element Name: Haplopappus macronema Gray ssp. linearis (Rydb.)  
Hall

Common Name: Discoid goldenweed

Range: The subspecies is endemic to northwest Wyoming and southwest Montana. In Montana it is known from Beaverhead, Madison, Meagher and Silver Bow counties.

Element Rank: G4T?/S2

Federal Status: None

Local Occurrence: I located two populations of H. macronema linearis in moist steppe in the Moose Town/Burton Park area (Fig. 7). The Burton Park population was estimated to be fewer than 300 plants, while the Moose Town population was estimated to be 500-1,000 plants. Associated plant communities were Artemisia tridentata/Festuca idahoensis and Potentilla fruticosa/Festuca idahoensis.

Comments: Although there is an abundance of apparently appropriate habitat in the study area, I located only two populations of H. macronema linearis. Many of the plants at the Burton Park site had been broken due to livestock trampling. However, the plant seems to respond positively to disturbance at the Moose Town site, being most common near fences and along roads.

Element Name: Ranunculus verecundus Robins.

Common Name: Modest buttercup

Range: Alaska south to Oregon, Idaho and Wyoming. In Montana this species is known from Glacier National Park and the Highland and Anaconda ranges in Beaverhead, Deer Lodge and Madison counties.

Element Rank: G5/S1

Federal Status: None

Local Occurrence: I located one population of R. verecundus in wet tundra on the west shoulder of Table Mountain (Lesica 1992, Fig. 5). Associated plant community was Deschampsia cespitosa/Caltha leptosepala. Population size was estimated to be 200-500 plants.



Topographic map of the Mount Humbug area in Burton National Park, North. The map features contour lines, a grid, and various geographical features. Key locations include Mount Humbug, Moose Camp Spring, and Moose Town. The map is labeled with "NATIONAL" and "BURTON".

Geographical features and labels include:

- Mount Humbug**: A prominent peak on the left side of the map.
- Moose Camp Spring**: Located near the center-right of the map.
- Moose Town**: Located at the bottom right of the map.
- Highland Road**: A road running horizontally across the middle of the map.
- Prospects**: Several locations marked with 'x' and labeled "Prospects".
- Contour Lines**: Numerous lines indicating elevation, with labels such as 7020, 7100, 7200, 7300, 7400, 7500, 7600, 7700, 7800, 7900, 8000, 8100, 8200, 8300, 8400, 8500, 8600, 8700, 8800, 8900, 9000, 9100, 9200, 9300, 9400, 9500, 9600, 9700, 9800, 9900, 10000, 10100, 10200, 10300, 10400, 10500, 10600, 10700, 10800, 10900, 11000, 11100, 11200, 11300, 11400, 11500, 11600, 11700, 11800, 11900, 12000, 12100, 12200, 12300, 12400, 12500, 12600, 12700, 12800, 12900, 13000, 13100, 13200, 13300, 13400, 13500, 13600, 13700, 13800, 13900, 14000, 14100, 14200, 14300, 14400, 14500, 14600, 14700, 14800, 14900, 15000, 15100, 15200, 15300, 15400, 15500, 15600, 15700, 15800, 15900, 16000, 16100, 16200, 16300, 16400, 16500, 16600, 16700, 16800, 16900, 17000, 17100, 17200, 17300, 17400, 17500, 17600, 17700, 17800, 17900, 18000, 18100, 18200, 18300, 18400, 18500, 18600, 18700, 18800, 18900, 19000, 19100, 19200, 19300, 19400, 19500, 19600, 19700, 19800, 19900, 20000, 20100, 20200, 20300, 20400, 20500, 20600, 20700, 20800, 20900, 21000, 21100, 21200, 21300, 21400, 21500, 21600, 21700, 21800, 21900, 22000, 22100, 22200, 22300, 22400, 22500, 22600, 22700, 22800, 22900, 23000, 23100, 23200, 23300, 23400, 23500, 23600, 23700, 23800, 23900, 24000, 24100, 24200, 24300, 24400, 24500, 24600, 24700, 24800, 24900, 25000, 25100, 25200, 25300, 25400, 25500, 25600, 25700, 25800, 25900, 26000, 26100, 26200, 26300, 26400, 26500, 26600, 26700, 26800, 26900, 27000, 27100, 27200, 27300, 27400, 27500, 27600, 27700, 27800, 27900, 28000, 28100, 28200, 28300, 28400, 28500, 28600, 28700, 28800, 28900, 29000, 29100, 29200, 29300, 29400, 29500, 29600, 29700, 29800, 29900, 30000, 30100, 30200, 30300, 30400, 30500, 30600, 30700, 30800, 30900, 31000, 31100, 31200, 31300, 31400, 31500, 31600, 31700, 31800, 31900, 32000, 32100, 32200, 32300, 32400, 32500, 32600, 32700, 32800, 32900, 33000, 33100, 33200, 33300, 33400, 33500, 33600, 33700, 33800, 33900, 34000, 34100, 34200, 34300, 34400, 34500, 34600, 34700, 34800, 34900, 35000, 35100, 35200, 35300, 35400, 35500, 35600, 35700, 35800, 35900, 36000, 36100, 36200, 36300, 36400, 36500, 36600, 36700, 36800, 36900, 37000, 37100, 37200, 37300, 37400, 37500, 37600, 37700, 37800, 37900, 38000, 38100, 38200, 38300, 38400, 38500, 38600, 38700, 38800, 38900, 39000, 39100, 39200, 39300, 39400, 39500, 39600, 39700, 39800, 39900, 40000, 40100, 40200, 40300, 40400, 40500, 40600, 40700, 40800, 40900, 41000, 41100, 41200, 41300, 41400, 41500, 41600, 41700, 41800, 41900, 42000, 42100, 42200, 42300, 42400, 42500, 42600, 42700, 42800, 42900, 43000, 43100, 43200, 43300, 43400, 43500, 43600, 43700, 43800, 43900, 44000, 44100, 44200, 44300, 44400, 44500, 44600, 44700, 44800, 44900, 45000, 45100, 45200, 45300, 45400, 45500, 45600, 45700, 45800, 45900, 46000, 46100, 46200, 46300, 46400, 46500, 46600, 46700, 46800, 46900, 47000, 47100, 47200, 47300, 47400, 47500, 47600, 47700, 47800, 47900, 48000, 48100, 48200, 48300, 48400, 48500, 48600, 48700, 48800, 48900, 49000, 49100, 49200, 49300, 49400, 49500, 49600, 49700, 49800, 49900, 50000, 50100, 50200, 50300, 50400, 50500, 50600, 50700, 50800, 50900, 51000, 51100, 51200, 51300, 51400, 51500, 51600, 51700, 51800, 51900, 52000, 52100, 52200, 52300, 52400, 52500, 52600, 52700, 52800, 52900, 53000, 53100, 53200, 53300, 53400, 53500, 53600, 53700, 53800, 53900, 54000, 54100, 54200, 54300, 54400, 54500, 54600, 54700, 54800, 54900, 55000, 55100, 55200, 55300, 55400, 55500, 55600, 55700, 55800, 55900, 56000, 56100, 56200, 56300, 56400, 56500, 56600, 56700, 56800, 56900, 57000, 57100, 57200, 57300, 57400, 57500, 57600, 57700, 57800, 57900, 58000, 58100, 58200, 58300, 58400, 58500, 58600, 58700, 58800, 58900, 59000, 59100, 59200, 59300, 59400, 59500, 59600, 59700, 59800, 59900, 60000, 60100, 60200, 60300, 60400, 60500, 60600, 60700, 60800, 60900, 61000, 61100, 61200, 61300, 61400, 61500, 61600, 61700, 61800, 6





Comments: Typical R. verecundus has deciduous sepals and persistent petals. Plants from the Table Mountain site have persistent sepals and lack petals (Lesica 1992). The area is subject to few direct human-caused disturbances. However, grazing by bighorn sheep in the area is intense, and this level of grazing may be having an impact on the vegetation. Bighorn sheep may be overusing this remote part of their range because of intense ORV use of lower, more accessible areas (Lesica 1992).

## DISCUSSION

The Moose Town area has a great diversity of parent materials and soils. Coarse-textured sandy soils derived from granite of the Boulder Batholith occur on the northern periphery. The majority of the upland areas have silty or loamy soils derived from metasediments, including outcroppings of calcareous parent material. These soils support Douglas-fir and lodgepole pine forests, limber pine woodland, sagebrush and cinquefoil steppe, and grasslands. The area also has a complex hydrologic geology and supports a vast array of wetland communities including aspen groves, wet spruce forests, willow swamps, fens, marshes and wet meadows. The diversity of plant communities and the extent of the wetlands is exceptional. The area is also important habitat for many species of wildlife including elk, moose and bighorn sheep.

Fives species of vascular plants listed as sensitive in U.S. Forest Service Region One occur in the Moose Town area (Fig. 2): Arabis fecunda, Carex idaho, Juncus hallii, Penstemon lemhiensis and Thlaspi parviflorum. Both A. fecunda and P. lemhiensis are candidates for listing as threatened or endangered species by the U.S. Fish and Wildlife Service, and all but J. hallii are endemic to small areas of southwest Montana and adjacent Idaho and Wyoming (Lesica and Shelly 1991). In addition, Erigeron gracilis and Haplopappus macronema ssp. linearis, two regional endemics that are MNHP species of special concern, are also found in this area (Fig. 2,7).

The habitat diversity and number of rare plant species make the Moose Town area the most outstanding biological area in the Highland Mountains. Unfortunately, the area has suffered a great deal of human-caused disturbance. It was the site of numerous mines and prospects, and apparently a small community existed there in the past. There are unreclaimed tailings heaps and mine shafts as well as water diversion ditches and old cabins. Probably more damaging are the numerous roads and 4-wheel drive trails throughout much of the area. These roads and trails continue to be used for recreation by residents of Butte and the surrounding area. The area is grazed by livestock during July and August, and some of the wetland and upland communities have been degraded as a result. Finally, forests on the north and



west sides of the Moose Town area have been clearcut. All of these disturbances have had and, in some cases, continue to have a negative impact on wildlife, populations of sensitive plants and the integrity of native communities.

Biological values in the Moose Town area could be protected by diminishing and mitigating human-caused disturbances: (1) limiting motorized vehicle traffic to main roads, (2) managing livestock to protect fragile wetland and riparian areas and prevent overgrazing of adjacent uplands, (3) reclamation of mine sites, and (4) limiting timber harvest to protect watershed values and wildlife. Approximately 1,800 acres of the Moose Town area is in private ownership; the rest is public land managed by the U.S. Forest Service and the Bureau of Land Management. A cooperative management plan for the area that addresses these issues is essential for maintaining the ecological integrity and biological diversity of the area.

The Fish Creek/Limekiln Hill area harbors populations of Arabis fecunda and Carex idahoensis, both of which are on the U.S. Forest Service Region One sensitive species list. In addition, there are populations of three MNHP species of special concern in the area (Fig. 3). This area is similar to the Moose Town area in its history of mining and livestock grazing, and there is an active mine along Fish Creek at this time. The topography is steeper, so there are fewer opportunities for off-road vehicle abuse. Although I do not believe that this area has the biological significance of the Moose Town area, developments and livestock management should be regulated to protect populations of rare and sensitive species.



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Appendix A. Vascular plants observed in the Highland Mountains June 25-July 6, 1992 and July 31-August 3, 1992. Nomenclature generally follows Hitchcock and Cronquist (1973). Nomenclature for willows follows Dorn (1984). Nomenclature for sensitive species follows Lesica and Shelly (1991). Species in bold were collected and specimens are deposited at MONTU. An asterisk (\*) indicates an introduced species.

#### Apiaceae

*Angelica arguta*  
*Cymopterus bipinnatus*  
*Heracleum lanatum*  
*Lomatium cous*  
*Lomatium cusickii*  
*Lomatium dissectum*  
*Lomatium triternatum*  
*Osmorhiza depauperata*  
*Perideridia gairdneri*

#### Asclepiadaceae

*Asclepias speciosa*

#### Asteraceae

*Achillea millefolium*  
*Agoseris aurantiaca*  
*Agoseris glauca*  
*Antennaria alpina*  
*Antennaria anaphaloides*  
*Antennaria aromatica*  
*Antennaria corymbosa*  
*Antennaria microphylla*  
*Antennaria parviflora*  
*Antennaria pulcherrima*  
*Antennaria racemosa*  
*Antennaria umbrinella*  
*Arnica chamissonis*  
*Arnica cordifolia*  
*Arnica fulgens*  
*Arnica mollis*  
*Arnica sorroria*  
*Artemisia absinthium\**  
*Artemisia campestris*  
*Artemisia dracunculus*  
*Artemisia frigida*  
*Artemisia michauxiana*  
*Artemisia tridentata*  
*Aster brachyactis*  
*Aster campestris*  
*Aster conspicuus*  
*Aster foliaceus*  
*Aster hesperius*  
*Aster integrifolius*  
*Aster laevis*  
*Aster occidentalis*  
*Aster scopulorum*  
*Aster stenomeres*  
*Chaenactis alpina*  
*Chaenactis douglasii*  
*Chrysopsis villosa*  
*Chrysothamnus nauseosus*  
*Chrysothamnus viscidiflorus*  
*Cirsium arvense\**

*Cirsium canovirens*  
*Cirsium hookerianum*  
*Cirsium scariosum*  
*Crepis acuminata*  
*Crepis atrabarba*  
*Crepis modocensis*  
*Crepis runcinata*  
*Erigeron acris*  
*Erigeron caespitosus*  
*Erigeron compositus*  
*Erigeron corymbosus*  
*Erigeron divergens*  
*Erigeron gracilis*  
*Erigeron lonchophyllus*  
*Erigeron ochroleucus*  
*Erigeron rydbergii*  
*Erigeron simplex*  
*Erigeron subtrinervis*  
*Erigeron tweedyi*  
*Erigeron ursinus*  
*Filago arvensis*  
*Gailardia aristata*  
*Haplopappus acaulis*  
*Haplopappus integrifolius*  
*Haplopappus lanuginosus*  
*Haplopappus lyallii*  
*Haplopappus macronema ssp. linearis*  
*Haplopappus uniflorus*  
*Helianthella uniflora*  
*Hieracium cynoglossoides*  
*Hieracium gracile*  
*Hulsea algida*  
*Hymenopappus filifolius*  
*Hymenoxys grandiflorus*  
*Machaeranthera canescens*  
*Matricaria matricarioides\**  
*Microseris cuspidata*  
*Senecio canus*  
*Senecio crassulus*  
*Senecio cymbalarioides*  
*Senecio foetidus*  
*Senecio fremontii*  
*Senecio indecorus*  
*Senecio integerrimus*  
*Senecio pauperculus*  
*Senecio pseudoreus*  
*Senecio serra*  
*Solidago missouriensis*  
*Solidago multiradiata*  
*Sonchus uliginosus\**  
*Taraxacum ceratophorum*  
*Taraxacum laevigatum\**  
*Taraxacum lyratum*  
*Taraxacum officinale\**





Carex obtusata  
Carex paysonis  
Carex pensylvanica  
Carex petasata  
Carex phaeocephala  
Carex praeegracilis  
Carex raynoldsii  
Carex rossii  
Carex rostrata  
Carex rupestris  
Carex scirpoidea  
Carex scopulorum  
Carex simulata  
Carex vallicola  
Eleocharis pauciflora

Elaeagnaceae  
Shepherdia canadensis

Equisetaceae  
Equisetum arvense  
Equisetum laevigatum  
Equisetum pratense  
Equisetum scirpoidea  
Equisetum variegatum

Ericaceae  
Arctostaphylos uva-ursi  
Cassiope mertensiana  
Chimaphila umbellata  
Kalmia microphylla  
Ledum glandulosum  
Phyllodoce empetrifloris  
Phyllodoce glanduliflora  
Pyrola asarifolia  
Pyrola chlorantha  
Pyrola minor  
Pyrola uniflora  
Vaccinium caespitosum  
Vaccinium scoparium

Fabaceae  
Astragalus aboriginum  
Astragalus adsurgens  
Astragalus agrestis  
Astragalus alpinus  
Astragalus atropubescens  
Astragalus canadensis  
Astragalus microcystis  
Astragalus miser  
Coronilla varia\*  
Hedysarum sulphurescens  
Lupinus argenteus  
Lupinus sericeus  
Medicago lupulina\*  
Onobrychis viciifolia\*  
Oxytropis besseyi  
Oxytropis campestris  
Oxytropis deflexa  
Oxytropis lagopus  
Trifolium hybridum\*  
Trifolium longipes

Trifolium pratense\*  
Trifolium repens\*

Fumariaceae  
Corydalis aurea

Gentianaceae  
Frasera speciosa  
Gentiana amarella  
Gentiana aquatica  
Gentiana affinis  
Gentiana aquatica  
Gentiana calycosa  
Gentiana propinqua

Geraniaceae  
Geranium richardsonii  
Geranium viscosissimum

Grossulariaceae  
Ribes cereum  
Ribes hudsonianum  
Ribes lacustre  
Ribes setosum

Hydrophyllaceae  
Phacelia franklinii  
Phacelia hastata  
Phacelia sericea

Iridaceae  
Iris missouriensis  
Sisyrinchium angustifolium

Juncaceae  
Juncus balticus  
Juncus drummondii  
Juncus ensifolius  
Juncus hallii  
Juncus longistylis  
Juncus mertensianus  
Juncus tenuis  
Luzula campestris  
Luzula parviflora  
Luzula piperi  
Luzula spicata

Liliaceae  
Allium brevistylum  
Allium cernuum  
Allium geyeri  
Allium schoenoprasum  
Calochortus nuttallii  
Erythronium grandiflorum  
Fritillaria atropurpurea  
Fritillaria pudica  
Smilacina stellata  
Zigadenus elegans  
Zigadenus venenosus

Linaceae  
Linum perenne



Onagraceae

Epilobium alpinum  
Epilobium angustifolium  
Epilobium glaberrimum  
Epilobium palustre  
Epilobium watsonii  
Gayophytum decipiens

Ophioglossaceae

Botrychium lanceolatum  
Botrychium lunaria

Orchidaceae

Corallorhiza trifida  
Habenaria dilatata  
Habenaria hyperborea  
Habenaria obtusata  
Spiranthes cernua

Orobanchaceae

Orobanche fasciculata

Pinaceae

Abies lasiocarpa  
Picea engelmannii  
Pinus albicaulis  
Pinus contorta  
Pinus flexilis  
Pseudotsuga menziesii

Poaceae

Agropyron caninum  
Agropyron cistatum\*  
Agropyron intermedium\*  
Agropyron spicatum  
Agropyron scribneri  
Agropyron smithii  
Agrostis alba  
Agrostis exarata  
Agrostis humilis  
Agrostis scabra  
Alopecurus aequalis  
Alopecurus alpinus  
Alopecurus pratensis\*  
Bromus carinatus  
Bromus ciliatus  
Bromus inermis\*  
Bromus pumpellianus  
Bromus tectorum\*  
Calamagrostis canadensis  
Calamagrostis montanensis  
Calamagrostis neglecta  
Calamagrostis purpurascens  
Calamagrostis rubescens  
Catabrosa aquatica  
Dactylis glomerata\*  
Danthonia intermedia  
Danthonia uniflora  
Deschampsia cespitosa  
Elymus cinereus  
Festuca idahoensis  
Festuca occidentalis

Festuca ovina  
Festuca rubra  
Glyceria striata  
Hordeum brachyantherum  
Hordeum jubatum  
Koeleria cristata  
Muhlenbergia richardsonis  
Oryzopsis exigua  
Phleum alpinum  
Phleum pratense\*  
Poa alpina  
Poa annua\*  
Poa compressa\*  
Poa cusickii  
Poa grayana  
Poa interior  
Poa juncifolia  
Poa lettermanii  
Poa leptocoma  
Poa nervosa  
Poa nevadensis  
Poa pratensis\*  
Poa reflexa  
Poa rupicola  
Poa scabrella  
Poa secunda  
Puccinellia distans\*  
Puccinellia pauciflora  
Sitanion hystrix  
Stipa comata  
Stipa occidentalis  
Stipa richardsonii  
Stipa viridula  
Trisetum canescens  
Trisetum cernuum  
Trisetum spicatum

Plantaginaceae

Plantago major\*

Polemoniaceae

Collomia debilis  
Collomia linearis  
Gilia inconspicua var. tweedyi  
Gilia tenerrima  
Ipomopsis spicata  
Linanthus septentrionalis  
Phlox longifolia  
Phlox muscoides  
Phlox pulvinata  
Polemonium occidentale  
Polemonium viscosum

Polygonaceae

Eriogonum flavum  
Eriogonum ovalifolium  
Eriogonum strictum  
Eriogonum umbellatum  
Polygonum aviculare\*  
Polygonum bistortoides  
Polygonum douglasii  
Rumex acetosella\*



Rumex crispus\*  
Rumex paucifolius  
Rumex salicifolius  
Rumex venosus

Polypodiaceae

Athyrium dissentifolium  
Cystopteris fragilis  
Woodsia oregana

Portulacaceae

Claytonia lanceolata  
Lewisia pygmaea  
Lewisia redivida  
Spraguea umbellata

Potamogetonaceae

Potamogeton alpinus  
Potamogeton gramineus  
Potamogeton pusillus

Primulaceae

Androsace filiformis  
Androsace septentrionalis  
Dodecatheon conjugens  
Dodecatheon pulchellum  
Douglasia montana

Ranunculaceae

Actaea rubra  
Anemone drummondii  
Anemone multifida  
Anemone nuttallianum  
Delphinium bicolor  
Delphinium occidentale  
Ranunculus acrifolius  
Ranunculus acris\*  
Ranunculus cymbalaria  
Ranunculus eschscholtzii  
Ranunculus inamoenus  
Ranunculus natans  
Ranunculus sceleratus  
Ranunculus uncinatus  
Ranunculus verecundus  
Thalictrum occidentale

Rhamnaceae

Ceanothus velutinus

Rosaceae

Amelanchier alnifolia  
Dryas octopetala  
Fragaria virginiana  
Geum macrophyllum  
Geum rossii  
Geum triflorum  
Potentilla anserina  
Potentilla biennis  
Potentilla concina  
Potentilla diversifolia  
Potentilla fruticosa  
Potentilla glandulosa

Potentilla gracilis  
Potentilla hippiana  
Potentilla ovina  
Potentilla pensylvanica  
Purshia tridentata  
Rosa nutkana  
Rosa woodsii  
Rubus idaeus  
Sibbaldia procumbens  
Spiraea betulifolia

Rubiaceae

Galium bifolium  
Galium boreale  
Galium trifidum

Salicaceae

Populus tremuloides  
Salix bebbiana  
Salix boothii  
Salix brachycarpa  
Salix drummondiana  
Salix exigua  
Salix lemmonii  
Salix lutea  
Salix nivalis  
Salix planifolia  
Salix scouleriana  
Salix wolfii

Saxifragaceae

Conimitella williamsii  
Heuchera cylindrica  
Heuchera grossularifolia  
Heuchera parvifolia  
Lithophragma bulbifera  
Lithophragma parviflora  
Parnassia fimbriata  
Parnassia palustris  
Saxifraga arguta  
Saxifraga bronchialis  
Saxifraga cespitosa  
Saxifraga oregana  
Saxifraga tempestiva

Scrophulariaceae

Besseyia wyomingensis  
Castilleja cusickii  
Castilleja lineariifolia  
Castilleja miniata  
Castilleja pallescens  
Chionophila tweedyi  
Collinsia parviflora  
Linaria vulgaris\*  
Melampyrum lineare  
Mimulus guttatus  
Pedicularis contorta  
Pedicularis groenlandica  
Pedicularis parryi  
Penstemon aridus  
Penstemon attenuatus  
Penstemon eriantherus



Penstemon fruticosus  
Penstemon lemhiensis  
Penstemon montanus  
Penstemon procerus  
Veronica americana  
Veronica peregrina  
Veronica serpyllifolia  
Veronica wormskjoldii

Selaginellaceae  
Selaginella densa

Urticaceae  
Urtica dioica

Valerianaceae  
Valeriana dioica  
Valeriana occidentalis

Violaceae  
Viola adunca  
Viola macloskeyi  
Viola nephrophylla  
Viola nuttallii





Appendix B. Element occurrence records for species of special concern occurring in the Highland Mountains.



MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: ARABIS FECUNDA  
Common Name: SAPPHIRE ROCKCRESS

Global rank: G2      Forest Service status: SENSITIVE  
State rank: S2      Federal Status: C2

Element occurrence code: PDBRA06290.014  
Element occurrence type:

Survey site name: FISH CREEK  
EO rank:  
EO rank comments:

County: SILVER BOW

USGS quadrangle: PIPESTONE PASS

Township/Range      Section:      TRS Note:  
001N007W      28      S2SW4

Survey date: 1992-06-29      Elevation: 7080 - 7560  
First observation: 1992-06-29      Slope/aspect: 60% / SOUTHEAST  
Last observation: 1992-06-29      Size (acres): 15

Location:

HIGHLAND MOUNTAINS SOUTH OF BUTTE; FROM CAMP CREEK ROAD (FS RD 8520) TAKE ROAD TO FISH CREEK. ONCE ON THE FISH CREEK ROAD, PROCEED WEST UNTIL ROAD CROSSES TO SOUTH SIDE OF CREEK. PROCEED ANOTHER 0.3 MILES. SITE IS ON NORTH SIDE OF CREEK.

Element occurrence data:

2,000 TO 5,000 INDIVIDUALS, FRUITING, EVIDENCE OF SEED DISPERSAL.

General site description:

OPEN EXPOSURE ON STRAIGHT MIDSLOPE. DRY AREA, SANDY SOIL, CALCAREOUS METASEDIMENT. ASSOCIATED DOMINANT SPECIES: ARTEMISIA FRIGIDA, AGROPYRON SPICATUM. ADDITIONAL ASSOCIATED PLANT SPECIES: SENECIO CANUS, ERIGERON COMPOSITUS, CAMPANULA ROTUNDIFOLIA.

Land owner/manager:

DEERLODGE NATIONAL FOREST, JEFFERSON RANGER DISTRICT

Comments:

EVIDENCE OF LIVESTOCK/WILDLIFE TRAILS, OLD MINING CLAIMS. ECODATA PLOT #92PL108.

Information source:

LESICA, P. DIVISION OF BIOLOGICAL SCIENCES, UNIV. OF MONTANA, MISSOULA, MT 59812.

Specimens:

LESICA, P. (5740). 1992. MONTU.



MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: ARABIS FECUNDA  
Common Name: SAPPHIRE ROCKCRESS

Global rank: G2      Forest Service status: SENSITIVE  
State rank: S2      Federal Status: C2

Element occurrence code: PDBRA06290.014  
Element occurrence type:

Survey site name: FISH CREEK  
EO rank:  
EO rank comments:

County: SILVER BOW

USGS quadrangle: PIPESTONE PASS

Township/Range      Section:      TRS Note:  
001N007W      28      S2SW4

Survey date: 1992-06-29      Elevation: 7080 - 7560  
First observation: 1992-06-29      Slope/aspect: 60% / SOUTHEAST  
Last observation: 1992-06-29      Size (acres): 15

Location:

HIGHLAND MOUNTAINS SOUTH OF BUTTE; FROM CAMP CREEK ROAD (FS RD 8520) TAKE ROAD TO FISH CREEK. ONCE ON THE FISH CREEK ROAD, PROCEED WEST UNTIL ROAD CROSSES TO SOUTH SIDE OF CREEK. PROCEED ANOTHER 0.3 MILES. SITE IS ON NORTH SIDE OF CREEK.

Element occurrence data:

2,000 TO 5,000 INDIVIDUALS, FRUITING, EVIDENCE OF SEED DISPERSAL.

General site description:

OPEN EXPOSURE ON STRAIGHT MIDSLOPE. DRY AREA, SANDY SOIL, CALCAREOUS METASEDIMENT. ASSOCIATED DOMINANT SPECIES: ARTEMISIA FRIGIDA, AGROPYRON SPICATUM. ADDITIONAL ASSOCIATED PLANT SPECIES: SENECIO CANUS, ERIGERON COMPOSITUS, CAMPANULA ROTUNDIFOLIA.

Land owner/manager:

DEERLODGE NATIONAL FOREST, JEFFERSON RANGER DISTRICT

Comments:

EVIDENCE OF LIVESTOCK/WILDLIFE TRAILS, OLD MINING CLAIMS. ECODATA PLOT #92PL108.

Information source:

LESICA, P. DIVISION OF BIOLOGICAL SCIENCES, UNIV. OF MONTANA, MISSOULA, MT 59812.

Specimens:

LESICA, P. (5740). 1992. MONTU.



MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: ARABIS FECUNDA  
Common Name: SAPPHIRE ROCKCRESS

Global rank: G2 Forest Service status: SENSITIVE  
State rank: S2 Federal Status: C2

Element occurrence code: PDBRA06290.015  
Element occurrence type:

Survey site name: LIMEKILN HILL  
EO rank:  
EO rank comments:

County: SILVER BOW

USGS quadrangle: PIPESTONE PASS

Township/Range Section: TRS Note:  
001N007W 27 NW4, NW4SW4; 28 E2SE4NE4

Survey date: Elevation: 7320 - 7760  
First observation: 1992-06-29 Slope/aspect: 75% / SOUTHEAST  
Last observation: 1992-06-29 Size (acres): 25

Location:  
HIGHLAND MOUNTAINS SOUTH OF BUTTE. FROM FISH CREEK ROAD (FS RD 668),  
TAKE ROAD TO LIMEKILN HILL (FS RD 8492). PROCEED 0.6 MILE; SITE IS ON  
RIDGE TO THE WEST.

Element occurrence data:  
5,000-10,000 INDIVIDUALS, FRUITING. EVIDENCE OF SEED DISPERSAL.

General site description:  
OPEN EXPOSURE ON UNDULATING UPPER RESIDUAL MOUNTAIN SLOPE; DRY AREA,  
SILTY SOIL, CALCAREOUS METASEDIMENT PARENT MATERIAL. ASSOCIATED  
DOMINANT SPECIES: PINUS FLEXILIS, AGROPYRON SPICATUM, HAPLOPAPPUS  
ACAULIS. ADDITIONAL ASSOCIATED SPECIES: POTENTILLA FRUTICOSA,  
PENSTEMON ARIDUS.

Land owner/manager:  
DEERLODGE NATIONAL FOREST, JEFFERSON RANGER DISTRICT

Comments:  
DATA GIVEN ARE FOR EAST PORTION OF THE SITE. ECODATA PLOT #92PL110.

Information source:  
LESICA, P. DIVISION OF BIOLOGICAL SCIENCES, UNIV. OF MONTANA,  
MISSOULA, MT 59812.

Specimens:





MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: ARABIS FECUNDA  
Common Name: SAPPHIRE ROCKCRESS

Global rank: G2 Forest Service status: SENSITIVE  
State rank: S2 Federal Status: C2

Element occurrence code: PDBRA06290.016  
Element occurrence type:

Survey site name: TUCKER CREEK  
EO rank:  
EO rank comments:

County: SILVER BOW

USGS quadrangle: TUCKER CREEK

Township/Range Section: TRS Note:  
001S009W 01 NW4  
001N009W 36 S2

Survey date: 1992-06-27 Elevation: 6640 - 6880  
First observation: 1992-06-27 Slope/aspect: 35% / SOUTH  
Last observation: 1992-06-27 Size (acres): 40

Location:  
FROM DIVIDE (TOWN), TAKE FRONTAGE ROAD NORTH CA. 5 MILES. GO EAST  
UNDER I-15 TO RANCH, THEN TAKE ROAD TO RESERVOIR. SITE IS ON HILL  
NORTH OF RESERVOIR.

Element occurrence data:  
10,000+ INDIVIDUALS, FRUITING, SEED DISPERSAL.

General site description:  
OPEN EXPOSURE ON UNDULATING SLOPE, DRY AREA ON RESIDUAL MOUNTAIN  
MIDSLOPE. SANDY SOIL OF CALCAREOUS METASEDIMENT PARENT MATERIAL.  
ASSOCIATED DOMINANT SPECIES: CERCOCARPUS LEDIFOLIUS, AGROPYRON  
SPICATUM, HAPLOPAPPUS ACAULIS. ADDITIONAL ASSOCIATED SPECIES:  
ORYZOPSIS HYMENOIDES, CYMPTERUS BIPINNATUS.

Land owner/manager:  
BLM: BUTTE DISTRICT, HEADWATERS RESOURCE AREA  
STATE LAND - UNDESIGNATED  
HUMBUG SPIRES PRIMITIVE AREA

Comments:  
ECODATA PLOT NUMBER 92PL105. LITTLE OR NO LIVESTOCK DISTURBANCE; DEER  
SCAT.

Information source:  
LESICA, P. DIVISION OF BIOLOGICAL SCIENCES, UNIV. OF MONTANA,  
MISSOULA, MT 59812.

Specimens:



MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: ARABIS FECUNDA  
Common Name: SAPPHIRE ROCKCRESS

Global rank: G2 Forest Service status: SENSITIVE  
State rank: S2 Federal Status: C2

Element occurrence code: PDBRA06290.017  
Element occurrence type:

Survey site name: SOUTH FORK TUCKER CREEK  
EO rank:  
EO rank comments:

County: SILVER BOW

USGS quadrangle: TUCKER CREEK

Township/Range Section: TRS Note:  
001N008W 31 N2

Survey date: 1992-06-27 Elevation: 6720 - 6980  
First observation: 1992-06-27 Slope/aspect: 50% / SOUTHWEST  
Last observation: 1992-06-27 Size (acres): 25

Location:  
FROM DIVIDE (TOWN) TAKE FRONTAGE ROAD NORTH CA. 5 MILES. GO EAST UNDER  
I-15 TO RANCH. FOLLOW DIRT ROAD TO NORTHEAST CA. 4 MILES, KEEPING TO  
RIGHT AT FORKS, TO SITE ON EITHER SIDE OF SOUTH FORK TUCKER CREEK, CA.  
1 MILE NORTHEAST OF RESERVOIR.

Element occurrence data:  
10,000+ INDIVIDUALS; FRUITING, SEED DISPERSAL.

General site description:  
PARTIALLY SHADED EXPOSURE ON CONVEX SLOPE; DRY AREA ON RESIDUAL LOWER  
MOUNTAIN SLOPE. SANDY SOIL OF CALCAREOUS METASEDIMENT PARENT MATERIAL.  
ASSOCIATED DOMINANT SPECIES: CERCOCARPUS LEDIFOLIUS, JUNIPERUS  
SCOPULORUM, AGROPYRON SPICATUM. ADDITIONAL ASSOCIATED SPECIES:  
HAPLOPAPPUS ACAULIS, CYMOPTERUS BIPINNATUS. DEER SCAT PRESENT.

Land owner/manager:  
BLM: BUTTE DISTRICT, HEADWATERS RESOURCE AREA  
HUMBUG SPIRES PRIMITIVE AREA

Comments:  
ECODATA PLOT NUMBER 92PL106.

Information source:  
LESICA, P. DIVISION OF BIOLOGICAL SCIENCES, UNIV. OF MONTANA,  
MISSOULA, MT 59812.

Specimens:  
LESICA, P. (5729). 1992. MONTU.



MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: ARABIS FECUNDA  
Common Name: SAPPHIRE ROCKCRESS

Global rank: G2 Forest Service status: SENSITIVE  
State rank: S2 Federal Status: C2

Element occurrence code: PDBRA06290.018  
Element occurrence type:

Survey site name: MOOSE TOWN  
EO rank:  
EO rank comments:

County: SILVER BOW

USGS quadrangle: MOUNT HUMBUG

Township/Range Section: TRS Note:  
001S008W 03 S2, NW4; 10 N2  
001N008W 35 SW4

Survey date: 1992-06-26 Elevation: 6700 - 7000  
First observation: 1992-06-26 Slope/aspect: 045% / SOUTH  
Last observation: 1992-06-26 Size (acres): 35

Location:

FROM HIGHLAND ROAD, TAKE MOOSE TOWN ROAD SOUTHWEST CA. 2 MILES TO  
MALONEY PARK. SITE IS ON BLUFFS NORTH OF MOOSE CREEK.

Element occurrence data:

1000-5000 INDIVIDUALS, FRUITING, EVIDENCE OF SEED DISPERSAL IN LARGEST  
SUBPOPULATION. ADDITIONAL SUBPOPULATION CA. 1.5 MILES NORTHWEST: 2000  
PLANTS, FRUITING, MANY SMALL PLANTS AS EVIDENCE OF REPRODUCTIVE  
SUCCESS. THIRD SUBPOPULATION CA. 1 MILE NNW: 100-2000 STEMS, FRUITING,  
MATURE FRUIT AND SMALL PLANTS PRESENT.

General site description:

OPEN TO PARTIALLY SHADED EXPOSURE ON UNDULATING AND CONVEX SLOPES. DRY  
AREAS LOWER TO MIDSLOPE; SANDY SOIL OF CALCAREOUS METASEDIMENT PARENT  
MATERIAL AND POSSIBLY DOLOMITE. ASSOCIATED DOMINANT SPECIES: AGROPYRON  
SPICATUM, PHLOX MUSCOIDES, HAPLOPAPPUS ACAULIS, POTENTILLA FRUTICOSA,  
PINUS FLEXILIS, JUNIPERUS COMMUNIS. ADDITIONAL ASSOCIATED SPECIES:  
ERIGERON COMPOSITUS, DOUGLASIA MONTANA, SENEIO CANUS, ARCTOSTAPHYLOS  
UVA-URSI, AND SEDUM LANCEOLATUM.

Land owner/manager:

PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)  
DEERLODGE NATIONAL FOREST, BUTTE RANGER DISTRICT

Comments:

LARGEST SUBPOPULATION: ECODATA PLOT NUMBER 92PL103; MINING CLAIMS. NNE  
SUBPOPULATION: ECODATA PLOT NUMBER 92PL101; NO EVIDENCE OF  
DISTURBANCE. NNW SUBPOPULATION: ECODATA PLOT NUMBER 92PL102;  
LIVESTOCK.



MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

ARABIS FECUNDA  
OCCURRENCE #018  
PAGE 2

Information source:

LESICA, P. DIVISION OF BIOLOGICAL SCIENCES, UNIV. OF MONTANA,  
MISSOULA, MT 59812.

Specimens:

LESICA, P. (5719). 1992. MONTU.





MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: CAREX IDAHOA  
Common Name: IDAHO SEDGE

Global rank: G2Q Forest Service status: SENSITIVE  
State rank: S1 Federal Status: 3C

Element occurrence code: PMCYP036E0.001

Survey site name: HIGHLAND CITY  
EO rank:  
EO rank comments:

County: SILVER BOW

USGS quadrangle: MOUNT HUMBUG

Township/Range Section: TRS Note:  
001N008W 35 SW4

Survey date: Elevation: 6860 -  
First observation: 1981-07-22 Slope/aspect: 5% / WEST  
Last observation: 1992-07-11 Size (acres): 1

Location:

FROM BUTTE, TAKE STATE HWY 2 TOWARD PIPESTONE PASS; CA. 1.5 MILES  
BEFORE PASS, GO SOUTHWEST ON FS RD 84 (HIGHLAND ROAD) 10.25 MILES TO  
0.1 MILE EAST OF TURNOFF TO MOOSE TOWN. SITE IS BETWEEN ROAD AND CREEK.

Element occurrence data:

1992: CA. 50 INDIVIDUALS, WITH IMMATURE FRUIT PRESENT. 1981: 20-30  
PLANTS, GROWING RIGHT ALONG THE ROAD.

General site description:

1992: OPEN EXPOSURE ON STRAIGHT SLOPE; MOIST BOTTOM IN NARROW VALLEY  
FLOODPLAIN. SILTY SOIL OF ALLUVIAL OR CALCAREOUS PARENT MATERIAL.  
ASSOCIATED DOMINANT SPECIES: POTENTILLA FRUTICOSA, DESCHAMPSIA  
CESPITOSA, JUNCUS BALTICUS. ADDITIONAL ASSOCIATED PLANT SPECIES: POA  
PRATENSIS, CAREX PETASATA, FRAGARIA VIRGINIANA, POTENTILLA GRACILIS.  
1981: CALCAREOUS WET-MOIST MEADOW SURROUNDED BY WILLOWS AND BOG BIRCH;  
WITH CAREX SCOPULORUM, PEDICULARIS GROENLANDICA, THALICTRUM  
SPARSIFLORUM, POTENTILLA FRUTICOSA.

Land owner/manager:

DEERLODGE NATIONAL FOREST, BUTTE RANGER DISTRICT

Comments:

ECODATA PLOT #92PL114. EVIDENCE OF LIVESTOCK DISTURBANCE.

Information source:

LESICA, P. DIVISION OF BIOLOGICAL SCIENCES, UNIV. OF MONTANA,  
MISSOULA, MT 59812.

Specimens:

LACKSCHEWITZ, K. (9728). 1981. MONTU.



MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: CAREX IDAHOA  
Common Name: IDAHO SEDGE

Global rank: G2Q Forest Service status: SENSITIVE  
State rank: S1 Federal Status: 3C

Element occurrence code: PMCYP036E0.007  
Element occurrence type:

Survey site name: COYOTE HILL  
EO rank:  
EO rank comments:

County: SILVER BOW

USGS quadrangle: PIPESTONE PASS

Township/Range Section: TRS Note:  
001N007W 27 SE4SW4

Survey date: Elevation: 6960 -  
First observation: 1992-06-29 Slope/aspect: 2% / SOUTHWEST  
Last observation: 1992-06-29 Size (acres): 1

Location:

HIGHLAND MOUNTAINS, SOUTH OF BUTTE. FROM FISH CREEK ROAD (FS RD 668),  
GO NORTH ON LIME KILN MOUNTAIN ROAD (FS RD 8492) CA. 100 YARDS. SITE  
IS ALONG SMALL SPRING CREEK.

Element occurrence data:  
50-100 RAMETS, IMMATURE FRUIT PRESENT.

General site description:

OPEN EXPOSURE ON STRAIGHT SLOPE; MOIST AREA IN BOTTOM ON ALLUVIAL  
FLOODPLAIN. SILTY SOIL OF ALLUVIAL OR CALCAREOUS PARENT MATERIAL.  
ASSOCIATED DOMINANT SPECIES: POTENTILLA FRUTICOSA, JUNCUS BALTICUS,  
DESCHAMPSIA CESPITOSA. ADDITIONAL ASSOCIATED SPECIES: POA PRATENSIS,  
TARAXACUM OFFICINALE, TRIFOLIUM LONGIPES.

Land owner/manager:

DEERLODGE NATIONAL FOREST, JEFFERSON RANGER DISTRICT

Comments:

ECODATA PLOT #92PL109. EVIDENCE OF LIVESTOCK GRAZING.

Information source:

LESICA, P. DIVISION OF BIOLOGICAL SCIENCES, UNIV. OF MONTANA,  
MISSOULA, MT 59812.

Specimens:

LESICA, P. (5746). 1992. MONTU.



MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: CAREX IDAHOA

Common Name: IDAHO SEDGE

Global rank: G2Q Forest Service status: SENSITIVE

State rank: S1 Federal Status: 3C

Element occurrence code: PMCYP036E0.008

Element occurrence type:

Survey site name: SOUTH FORK TUCKER CREEK

EO rank:

EO rank comments:

County: SILVER BOW

USGS quadrangle: TUCKER CREEK

Township/Range Section: TRS Note:

001N009W

36

NE4

Survey date:

Elevation: 6180 -

First observation: 1992-06-27

Slope/aspect:

Last observation: 1992-06-27

Size (acres): 1

Location:

FROM DIVIDE (TOWN), GO NORTH ON FRONTAGE ROAD CA. 5 MILES. GO EAST UNDER I-15 CA. 1.5 MILES TO RANCH. TAKE ROAD TO RESERVOIR CA. 1 MILE. INSTEAD OF CONTINUING UPHILL, GO DOWN TO CREEK. SITE IS CA. 0.4 MILE UPSTREAM.

Element occurrence data:

50-100 INDIVIDUALS; IMMATURE FRUIT PRESENT.

General site description:

OPEN EXPOSURE ON STRAIGHT SLOPE; MOIST AREA IN BOTTOM ON FLOODPLAIN TERRACE. SILTY SOIL OF ALLUVIAL PARENT MATERIAL. ECOTONE BETWEEN CAREX NEBRASCENSIS WET MEADOW AND ARTEMISIA TRIDENTATA-FESTUCA IDAHOENSIS STEPPE, WITH POA PRATENSIS AND JUNCUS BALTICUS.

Land owner/manager:

STATE LAND -- UNDESIGNATED

Comments:

LIVESTOCK DISTURBANCE EVIDENT.

Information source:

LESICA, P. DIVISION OF BIOLOGICAL SCIENCES, UNIV. OF MONTANA, MISSOULA, MT 59812.

Specimens:

LESICA, P. (5730). 1992. MONTU.



MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: CAREX VALLICOLA  
Common Name: A SEDGE

Global rank: G5 Forest Service status:  
State rank: S2 Federal Status:

Element occurrence code: PMCYP03EA0.007  
Element occurrence type:

Survey site name: LIMEKILN HILL  
EO rank:  
EO rank comments:

County: SILVER BOW

USGS quadrangle: PIPESTONE PASS

Township/Range Section: TRS Note:  
001N007W 22 E2E2

Survey date: 1992-06-29 Elevation: 7600 - 7650  
First observation: 1992-06-29 Slope/aspect: 10% / EAST  
Last observation: 1992-06-29 Size (acres): 2

Location:

HIGHLAND MOUNTAINS SOUTH OF BUTTE; CA. 0.25 MILE DUE EAST OF LIMEKILN  
SPRING. FROM FISH CREEK TAKE FS RD 8492 TO LIMEKILN HILL. GO NORTH TO  
THE SADDLE. SITE IS CA. 0.1 MILE NORTH.

Element occurrence data:  
100-1000 INDIVIDUALS, IN FRUIT.

General site description:

OPEN EXPOSURE ON CONVEX UPPER SLOPE. MOIST AREA ON RESIDUAL MOUNTAIN  
SLOPE, SILTY SOIL, CALCAREOUS METASEDIMENT PARENT MATERIAL. ASSOCIATED  
DOMINANT SPECIES: FESTUCA IDAHOENSIS, LUPINUS SERICEUS. ADDITIONAL  
ASSOCIATED PLANT SPECIES: CAREX HOODII, CAREX PETASATA, STIPA  
OCCIDENTALIS, ERIOGONUM UMBELLATUM.

Land owner/manager:

DEERLODGE NATIONAL FOREST, JEFFERSON RANGER DISTRICT  
DEERLODGE NATIONAL FOREST, BUTTE RANGER DISTRICT

Comments:

ROAD RUNS THROUGH POPULATION.

Information source:

LESICA, P. DIVISION OF BIOLOGICAL SCIENCES, UNIV. OF MONTANA,  
MISSOULA, MT 59812.

Specimens:

LESICA, P. (5743). 1992. MONTU.





MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: CLAYTONIA LANCEOLATA VAR FLAVA  
Common Name: YELLOW SPRINGBEAUTY

Global rank: G5T5      Forest Service status: SENSITIVE  
State rank: S3      Federal Status: C2

Element occurrence code: PDPOR03092.005  
Element occurrence type:

Survey site name: BURTON PARK  
EO rank: A  
EO rank comments: LARGE, REPRESENTATIVE POPULATION; ALL  
WHITE-FLOWERED.

County: SILVER BOW

USGS quadrangle: MOUNT HUMBUG

Township/Range      Section:      TRS Note:  
001N008W      27      SW4NE4, NE4NW4, E2SE4; 22W2, NW4SE4, 26SW4SW4, 35NW

Survey date: 1989-06-05      Elevation: 6880 -  
First observation: 1988      Slope/aspect: LEVEL  
Last observation: 1989-06-05      Size (acres): 200

Location:  
HIGHLAND MOUNTAINS, BURTON PARK AND UPPER NORTH FORK TUCKER CREEK, CA.  
12 AIR MILES SSW OF BUTTE; ALONG HIGHLAND ROAD (N.F. ROAD #84).

Element occurrence data:  
CA. 60,000 PLANTS IN 11 SUBPOPULATIONS; ONLY WHITE-FLOWERED PLANTS  
OBSERVED.

General site description:  
LARGE, LEVEL MEADOW, WITH POTENTILLA FRUTICOSA, DODECATHEON CONJUGENS,  
POLYGONUM BISTORTOIDES, GEUM TRIFLORUM.

Land owner/manager:  
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)  
DEERLODGE NATIONAL FOREST, BUTTE RANGER DISTRICT

Comments:  
VOUCHER-SCHASSBERGER, L.A. (204). 1988. MONTU; SYSTEMATIC STUDIES IN  
PROGRESS. UNIQUE POPULATION--ENTIRELY WHITE-FLOWERED.

Information source:  
SCHASSBERGER, L.A. 1989. FIELD SURVEYS OF THE PIONEER MOUNTAINS, 6-9  
JUNE.

Specimens:



MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: DRABA DENSIFOLIA  
Common Name: DENSE-LEAF WHITLOW-GRASS

Global rank: G5 Forest Service status:  
State rank: S2 Federal Status:

Element occurrence code: PDBRA110W0.001  
Element occurrence type:

Survey site name: HOMESTAKE REST AREA  
EO rank:  
EO rank comments:

County: JEFFERSON

USGS quadrangle: HOMESTAKE  
DELMOE LAKE

Township/Range Section: TRS Note:  
002N006W 20

Survey date:	Elevation: 6300 -
First observation: 1986	Slope/aspect: - / SOUTH
Last observation: 1986-04-26	Size (acres): 0

Location:  
JUST EAST OF REST AREA, OFF INTERSTATE-90, 2 MILES EAST OF HOMESTAKE PASS.

Element occurrence data:  
COMMON.

General site description:  
IN COARSE, SANDY, GRANITE-DERIVED SOIL OF STEEP SOUTH-FACING BANK,  
WITH ERYSIMUM ASPERUM AND CHAENACTIS DOUGLASII.

Land owner/manager:  
DEERLODGE NATIONAL FOREST, JEFFERSON RANGER DISTRICT

Comments:  
LABEL READS RANGE 7 WEST; REST AREA IS IN RANGE 6 WEST.

Information source:  
LESICA, P. DIVISION OF BIOLOGICAL SCIENCES, UNIV. OF  
MONTANA, MISSOULA, MT 59812. (3693). 1986. SPECIMEN #  
104255. MONTU.

Specimens:



MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: ERIGERON GRACILIS  
Common Name: SLENDER FLEABANE

Global rank: G4      Forest Service status:  
State rank: S2      Federal Status:

Element occurrence code: PDAST3M1R0.008  
Element occurrence type:

Survey site name: MOUNT HUMBUG  
EO rank:  
EO rank comments:

County: SILVER BOW

USGS quadrangle: MOUNT HUMBUG

Township/Range      Section:      TRS Note:  
001N008W      34

Survey date:	- -	Elevation:	7300 -
First observation:	1981	Slope/aspect:	
Last observation:	1981-07-22	Size (acres):	0

Location:  
BUTTE HIGHLANDS.

Element occurrence data:  
WIDELY SCATTERED.

General site description:  
SAGEBRUSH PRAIRIE.

Land owner/manager:  
DEERLODGE NATIONAL FOREST, BUTTE RANGER DISTRICT

Comments:  
E. URSINUS, ANNOTATED AS E. GRACILIS BY K.H.L., 1987.

Information source:  
LACKSCHEWITZ, K.H. (9739). 1981. SPECIMEN #86510. MONTU.

Specimens:



MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: ERIGERON GRACILIS  
Common Name: SLENDER FLEABANE

Global rank: G4      Forest Service status:  
State rank: S2      Federal Status:

Element occurrence code: PDAST3M1R0.010  
Element occurrence type:

Survey site name: PANDORA MOUNTAIN  
EO rank:  
EO rank comments:

County: SILVER BOW

USGS quadrangle: WICKIUP CREEK

Township/Range      Section:      TRS Note:  
001S008W      34      NE4

Survey date:      Elevation: 7350 - 7550  
First observation: 1992-06-30      Slope/aspect: 5% / EAST  
Last observation: 1992-06-30      Size (acres): 40

Location:

FOLLOW CAMP CREEK ROAD SOUTH TO CROSSING OF WICKIUP CREEK. PROCEED 0.2 MILE TO MOFFET MOUNTAIN ROAD. PROCEED WEST AND SOUTH CA. 1 MILE TO NATIONAL FOREST BOUNDARY. SITE IS JUST WEST OF FENCE.

Element occurrence data:  
1000+ INDIVIDUALS, FLOWERING.

General site description:

OPEN EXPOSURE ON CONCAVE UPPER SLOPE. DRY/MOIST AREA ON RESIDUAL MOUNTAIN SLOPE; SILTY SOIL. ASSOCIATED DOMINANT SPECIES: ARTEMISIA TRIDENTATA, FESTUCA IDAHOENSIS, GERANIUM VISCOSISSIMUM. ADDITIONAL ASSOCIATED SPECIES: ASTER STENOMERES.

Land owner/manager:

DEERLODGE NATIONAL FOREST, BUTTE RANGER DISTRICT

Comments:

EVIDENCE OF LIVESTOCK, 4 x 4 ROADS, PROSPECTING. SPECIES MAY BE COMMON IN THE AREA; LARGE AMOUNT OF UNSURVEYED HABITAT AVAILABLE.

Information source:

LESICA, P. DIVISION OF BIOLOGICAL SCIENCES, UNIV. OF MONTANA, MISSOULA, MT 59812.

Specimens:

LESICA, P. (5751). 1992. MONTU.





MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: ERIGERON GRACILIS  
Common Name: SLENDER FLEABANE

Global rank: G4 Forest Service status:  
State rank: S2 Federal Status:

Element occurrence code: PDAST3M1R0.012  
Element occurrence type:

Survey site name: PIPESTONE PASS  
EO rank:  
EO rank comments:

County: SILVER BOW

USGS quadrangle: PIPESTONE PASS

Township/Range Section: TRS Note:  
001N007W 33 N2NE4NW4; 28 S2S2S2; 27 N2NE4; 22 S2S2SE4

Survey date: Elevation: 7120 - 7650  
First observation: 1992-06-29 Slope/aspect: 2-15% / SOUTH, EAST  
Last observation: 1992-06-29 Size (acres): 35

Location:  
HIGHLAND MOUNTAINS SOUTH OF BUTTE. TWO SITES: 1) FROM FISH CREEK TAKE ROAD TO LIMEKILN HILL (FS RD 8492), SITE IS CA. 0.2 MILES SOUTH OF SADDLE; 2) TAKE FISH CREEK ROAD (FS RD 668) WEST TO CREEK CROSSING. PROCEED 0.3 MILE TO MEADOWS.

Element occurrence data:  
1,000 TO 10,000 INDIVIDUALS, FLOWERING; 2 SUBPOPULATIONS.

General site description:  
OPEN EXPOSURE ON STRAIGHT SLOPE; DRY-MOIST AREA ON RESIDUAL MOUNTAIN SLOPES, SILTY SOIL, CALCAREOUS METASEDIMENT PARENT MATERIAL.  
ASSOCIATED DOMINANT SPECIES: POTENTILLA FRUTICOSA, FESTUCA IDAHOENSIS, POA PRATENSIS. ADDITIONAL ASSOCIATED SPECIES: LUPINUS SERICEUS, ARTEMISIA TRIDENTATA, CERASTIUM ARVENSE, POTENTILLA GRACILIS.

Land owner/manager:  
DEERLODGE NATIONAL FOREST, JEFFERSON RANGER DISTRICT  
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:  
LIVESTOCK, EXOTICS, AND ROADS IN AREA. ERIGERON GRACILIS PROBABLY OCCURS IN OTHER AREAS IN HIGHLAND CITY AREA; HABITATS NOT SURVEYED.

Information source:  
LESICA, P. DIVISION OF BIOLOGICAL SCIENCES, UNIV. OF MONTANA, MISSOULA, MT 59812.

Specimens:  
LESICA, P. (5741). 1992. MONTU.



MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: GENTIANA AQUATICA  
Common Name: WET MEADOW GENTIAN

Global rank: G4 Forest Service status:  
State rank: S2S3 Federal Status:

Element occurrence code: PDGEN06050.012  
Element occurrence type:

Survey site name: LIMESKILN HILL  
EO rank:  
EO rank comments:

County: SILVER BOW

USGS quadrangle: PIPESTONE PASS

Township/Range Section: TRS Note:  
001N007W 27 SE4SW4

Survey date:	Elevation: 6920 - 7000
First observation: 1992-06-29	Slope/aspect: 2% / SOUTH
Last observation: 1992-06-29	Size (acres): 5

Location:  
HIGHLAND MOUNTAINS SOUTH OF BUTTE. FROM FISH CREEK ROAD (FS RD 668),  
TAKE ROAD TO LIME KILN HILL (FS RD 8492) FOR CA. 100 YARDS. SITE IS  
ALONG SMALL SIDE CREEK JUST 100 YARDS UP ROAD.

Element occurrence data:  
1000+ INDIVIDUALS, FLOWERING AND FRUITING. EVIDENCE OF SEED DISPERSAL.

General site description:  
OPEN EXPOSURE ON STRAIGHT BOTTOM SLOPE. MOIST AREA, SILTY SOIL,  
CALCAREOUS ALLUVIUM PARENT MATERIAL. ASSOCIATED DOMINANT SPECIES:  
POTENTILLA FRUTICOSA, JUNCUS BALTICUS, POA PRATENSIS, DESCHAMPSIA  
CESPITOSA. ADDITIONAL ASSOCIATED PLANT SPECIES: ANTENNARIA CORYMBOSA.

Land owner/manager:  
DEERLODGE NATIONAL FOREST, JEFFERSON RANGER DISTRICT

Comments:  
LIVESTOCK GRAZING. ANNUAL SPECIES; POPULATION SIZE FLUCTUATES.

Information source:  
LESICA, P. DIVISION OF BIOLOGICAL SCIENCES, UNIV. OF MONTANA,  
MISSOULA, MT 59812.

Specimens:  
LESICA, P. (5747). 1992. MONTU.



MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: HAPLOPAPPUS MACRONEMA VAR LINEARIS  
Common Name: LINEAR-LEAVED DISCOID GOLDENWEED

Global rank: G4T? Forest Service status:  
State rank: S2 Federal Status:

Element occurrence code: PDAST4FOU3.001  
Element occurrence type:

Survey site name: MOUNT HUMBUG  
EO rank:  
EO rank comments:

County: SILVER BOW

USGS quadrangle: MOUNT HUMBUG

Township/Range	Section:	TRS Note:
001N008W	35	SW4SW4; 34 SE4SE4
001S008W	03	NE4NE4

Survey date:	Elevation: 6880 - 6980
First observation: 1992-08-01	Slope/aspect: 10% / SOUTHEAST
Last observation: 1992-08-01	Size (acres): 15

Location:  
HIGHLAND MOUNTAINS SOUTH OF BUTTE; TAKE HIGHLAND ROAD (FS RD 84) WEST TO TURNOFF TO MOOSE TOWN. GO LEFT AND PROCEED TO FIRST CATTLE GUARD. SITE IS CA. 0.6 MILE SOUTHEAST OF MOOSE CAMP SPRING.

Element occurrence data:  
500-1000 INDIVIDUALS; FLOWERING, IN FRUIT AND BUD. EVIDENCE OF SEED DISPERSAL.

General site description:  
OPEN EXPOSURE ON CONCAVE MIDSLOPE. DRY AREA ON RESIDUAL MOUNTAIN SLOPE; LOAM SOIL, METASEDIMENT PARENT MATERIAL. ASSOCIATED DOMINANT SPECIES: POTENTILLA FRUTICOSA, ARTEMISIA TRIDENTATA, FESTUCA IDAHOENSIS, AGROPYRON DASYSTACHYUM, STIPA RICHARDSONII. ADDITIONAL ASSOCIATED SPECIES: POA PRATENSIS, ANTENNARIA MICROPHYLLA, GEUM TRIFLORUM, ERIOGONUM UMBELLATUM.

Land owner/manager:  
DEERLODGE NATIONAL FOREST, BUTTE RANGER DISTRICT  
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:  
ROAD RUNS THROUGH POPULATION; HEAVY LIVESTOCK USE NEAR CATTLEGUARD. PLANT APPEARS TO BE MOST COMMON IN MOST DISTURBED AREAS.

Information source:  
LESICA, P. DIVISION OF BIOLOGICAL SCIENCES, UNIV. OF MONTANA, MISSOULA, MT 59812.

Specimens:  
LESICA P. (5831) 1992 MONTH



MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: HAPLOPAPPUS MACRONEMA VAR LINEARIS  
Common Name: LINEAR-LEAVED DISCOID GOLDENWEED

Global rank: G4T? Forest Service status:  
State rank: S2 Federal Status:

Element occurrence code: PDAST4FOU3.002  
Element occurrence type:

Survey site name: BURTON PARK  
EO rank:  
EO rank comments:

County: SILVER BOW

USGS quadrangle: MOUNT HUMBUG

Township/Range Section: TRS Note:  
001N008W 22 S2N2

Survey date: Elevation: 6940 - 6980  
First observation: 1992-08-01 Slope/aspect: 5% / SOUTH  
Last observation: 1992-08-01 Size (acres): 20

Location:

HIGHLAND MOUNTAINS, SOUTH OF BUTTE. SITE IS AT NORTH END OF BURTON  
PARK ALONG TRAIL #108, CA. 2.25 MILES DUE NORTH OF MOOSE CAMP SPRING.

Element occurrence data:  
100-300 INDIVIDUALS, FLOWERING, IN BUD.

General site description:

OPEN EXPOSURE ON STRAIGHT LOWER SLOPE; DRY AREA ON ALLUVIAL FAN, LOAM  
SOIL, GRANITE PARENT MATERIAL. ASSOCIATED DOMINANT SPECIES: ARTEMESIA  
TRIDENTATA, FESTUCA IDAHOENSIS, CAREX FILIFOLIA. ADDITIONAL ASSOCIATED  
SPECIES: GEUM TRIFLORUM, SELAGINELLA DENSA.

Land owner/manager:

DEERLODGE NATIONAL FOREST, BUTTE RANGER DISTRICT  
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:

CATTLE DISTURBANCE; MANY PLANTS TRAMPLED. ECODATA PLOT #92PL118.

Information source:

LESICA, P. DIVISION OF BIOLOGICAL SCIENCES, UNIV. OF MONTANA,  
MISSOULA, MT 59812.

Specimens:

LESICA, P. (5830). 1992. MONTU.





MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: HAPLOPAPPUS MACRONEMA VAR MACRONEMA  
Common Name: DISCOID GOLDENWEED

Global rank: G4T4      Forest Service status: SENSITIVE  
State rank: S1      Federal Status:

Element occurrence code: PDAST4F0U2.001  
Element occurrence type:

Survey site name: STORM PEAK  
EO rank:  
EO rank comments:

County: BEAVERHEAD

USGS quadrangle: STORM PEAK

Township/Range      Section: TRS Note:  
003S010W      21      SE4

Survey date:	Elevation: 8900 -
First observation: 1920	Slope/aspect:
Last observation: 1990-07-29	Size (acres): 0

Location:  
EAST PIONEER MOUNTAINS, CA. 0.5 MILE SOUTHEAST OF STORM PEAK.

Element occurrence data:  
CA. 20 PLANTS OBSERVED IN AREA CA. 20M N-S BY 50M E-W; SOME NOT YET IN FLOWER.

General site description:  
TALUS SLOPE, SOUTH FACING, WITH SCATTERED WHITEBARK PINE, AND RIBES, ARTEMISIA, DELPHINIUM.

Land owner/manager:  
BEAVERHEAD NATIONAL FOREST, WISE RIVER RANGER DISTRICT  
BEAVERHEAD NATIONAL FOREST, DILLON RANGER DISTRICT

Comments:  
ADDITIONAL HABITAT TO EAST NOT SURVEYED (1990). VOUCHER - ELOFSON, H. W. (133), 1920, MONT.

Information source:  
JONES, CEDRON. c/o MT NATURAL HERITAGE PROGRAM.

Specimens:



MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: JUNCUS HALLII  
Common Name: HALL'S RUSH

Global rank: G4G5 Forest Service status: SENSITIVE  
State rank: S2 Federal Status:

Element occurrence code: PMJUN011E0.010  
Element occurrence type:

Survey site name: MOUNT HUMBUG  
EO rank:  
EO rank comments:

County: SILVER BOW

USGS quadrangle: MOUNT HUMBUG

Township/Range Section: TRS Note:  
001N008W 36 SE4NW4

Survey date: Elevation: 7210 - 7280  
First observation: 1992-06-30 Slope/aspect: 5% / NORTH  
Last observation: 1992-06-30 Size (acres): 1

Location:

HIGHLAND MOUNTAINS SOUTH OF BUTTE. FROM JUNCTION OF HIGHLAND ROAD (FS RD 84) AND CAMP CREEK ROAD (FS RD 8520), TAKE HIGHLAND ROAD WEST CA. 0.5 MILE. TAKE ROAD TO RIGHT AND PROCEED CA. 0.5 MILE TO JUNCTION. STAY LEFT AND PROCEED 0.25-0.50 MILE TO SITE.

Element occurrence data:  
50+ INDIVIDUALS IN EARLY FRUIT.

General site description:

OPEN EXPOSURE ON CONCAVE MIDSLOPE; MOIST AREA. ASSOCIATED DOMINANT SPECIES: POTENTILLA FRUTICOSA AND JUNCUS BALTICUS. ADDITIONAL ASSOCIATED SPECIES: ASTRAGALUS ALPINUS, POTENTILLA FRUTICOSA, JUNCUS TENUIS.

Land owner/manager:

DEERLODGE NATIONAL FOREST, BUTTE RANGER DISTRICT

Comments:

SITE IS ADJACENT TO ROAD. AREA HAS BEEN LOGGED.

Information source:

LESICA, P. DIVISION OF BIOLOGICAL SCIENCES, UNIV. OF MONTANA, MISSOULA, MT 59812.

Specimens:

LESICA, P. (5750). 1992. MONTU.



MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: OROBANCHE CORYMBOSA  
Common Name: FLAT-TOPPED BROOMRAPE

Global rank: G4 Forest Service status: WATCH  
State rank: S2 Federal Status:

Element occurrence code: PDOR004040.006  
Element occurrence type:

Survey site name: HELLS CANYON  
EO rank:  
EO rank comments:

County: MADISON

USGS quadrangle: TABLE MOUNTAIN

Township/Range	Section:	TRS Note:
002S006W	7	SW4; SW4SE4
002S007W	12	NE4NE4

Survey date:	1992-07-29	Elevation:	6150 - 6650
First observation:	1992-07-29	Slope/aspect:	5-10% / SOUTH
Last observation:	1992-07-29	Size (acres):	50

Location:

HIGHLAND MOUNTAINS SOUTH OF BUTTE. SITES ARE OFF MAIN HELLS CANYON ROAD. MAIN (CENTROID) POPULATION IS CA. 1.7 MILES SOUTHEAST OF HELLS CANYON FOREST SERVICE STATION.

Element occurrence data:

OVER 2000 INDIVIDUALS, WITH 3 SUBPOPULATIONS. OLD STEMS, SOME FLOWERING PLANTS. ROOTS ARE FULL OF WORMS.

General site description:

OPEN EXPOSURE ON RIDGE. CONVEX SLOPE SHAPE. DRY AREA ON RESIDUAL MOUNTAIN SLOPES. SANDY SOIL, GRANITE PARENT MATERIAL. ASSOCIATED DOMINANT SPECIES: ARTEMISIA TRIDENTATA, FESTUCA IDAHOENSIS, AGROPYRON SPICATUM. ADDITIONAL ASSOCIATED PLANT SPECIES: POA SECUNDA, ERIGERON COMPOSITUS, ANTENNARIA MICROPHYLLA.

Land owner/manager:

DEERLODGE NATIONAL FOREST, JEFFERSON RANGER DISTRICT  
BLM: BUTTE DISTRICT, DILLON RESOURCE AREA

Comments:

DISTURBANCE FROM LIVESTOCK EVIDENT. ECODATA PLOT #92PL116, 92PL117.

Information source:

LESICA, P. DIVISION OF BIOLOGICAL SCIENCES, UNIV. OF MONTANA, MISSOULA, MT 59812.

Specimens:

LESICA, P. (5811). 1992. MONTU.



MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3 Forest Service status: SENSITIVE  
State rank: S2 Federal Status: C2

Element occurrence code: PDSCR1L3N0.046  
Element occurrence type:

Survey site name: MOUNT HUMBUG  
EO rank:  
EO rank comments:

County: SILVER BOW

USGS quadrangle: MOUNT HUMBUG

Township/Range Section: TRS Note:  
001S007W 06 NE4  
001N007W 32 SW4SW4

Survey date: Elevation: 7640 - 7880  
First observation: 1992-06-28 Slope/aspect: 30% / NORTHEAST  
Last observation: 1992-06-28 Size (acres): 12

Location:

HIGHLAND MOUNTAINS SOUTH OF BUTTE. FROM CAMP CREEK ROAD (FS RD 8520)  
TAKE ROAD TO FISH CREEK AND HIGHLAND LOOKOUT (FS RD 8514). SITE IS 0.2  
MILE BEYOND TURNOFF TO LOOKOUT.

Element occurrence data:

TWO SUBPOPULATIONS, EACH WITH 50-100 INDIVIDUALS, FLOWERING.

General site description:

OPEN EXPOSURE ON CONCAVE MIDSLOPE. DRY AREA ON RESIDUAL MOUNTAIN  
SLOPE; SANDY SOIL, CALCAREOUS METASEDIMENT PARENT MATERIAL. ASSOCIATED  
DOMINANT SPECIES: AGROPYRON SPICATUM, FESTUCA IDAHOENSIS, ASTRAGALUS  
MISER. ADDITIONAL ASSOCIATED SPECIES: PHACELIA HASTATA, DELPHINIUM  
BICOLOR, PHLOX LONGIFOLIA, COLLOMIA LINEARIS, BROMUS CARINATUS.

Land owner/manager:

DEERLODGE NATIONAL FOREST, BUTTE RANGER DISTRICT  
DEERLODGE NATIONAL FOREST, JEFFERSON RANGER DISTRICT  
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:

OLD MINE PROSPECTS, ROAD, POCKET GOPHERS. ECODATA PLOT #92PL107.

Information source:

LESICA, P. DIVISION OF BIOLOGICAL SCIENCES, UNIV. OF MONTANA,  
MISSOULA, MT 59812.

Specimens:

LESICA, P. (5738). 1992. MONTU.





MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: PENSTEMON LEMHIENSIS  
Common Name: LEMHI BEARDTONGUE

Global rank: G3 Forest Service status: SENSITIVE  
State rank: S2 Federal Status: C2

Element occurrence code: PDSCR1L3N0.047  
Element occurrence type:

Survey site name: MOUNT HUMBUG  
EO rank:  
EO rank comments:

County: SILVER BOW

USGS quadrangle: MOUNT HUMBUG

Township/Range Section: TRS Note:  
001S008W 04 SE4NE4SE4

Survey date: Elevation: 6920 -  
First observation: 1992-07-11 Slope/aspect: 35% / EAST  
Last observation: 1992-07-11 Size (acres): 1

Location:

HIGHLAND MOUNTAINS SOUTH OF BUTTE. FROM HIGHLAND ROAD (FS RD 84) TAKE ROAD TO MOOSE TOWN (FS RD 8594). FOLLOW ROAD TO MALONEY PARK, CONTINUE WEST 0.2 MILE TO TRACK GOING NORTH ACROSS CREEK AND PROCEED ON TRACK FOR CA. 0.7 MILES. SITE IS JUST EAST OF TRACK, CA. 1.6 MILES SOUTHEAST OF THE PEAK OF MOUNT HUMBUG.

Element occurrence data:

100-200 INDIVIDUALS, FLOWERS AND IMMATURE FRUIT. NEARLY ALL INFLORESCENCES EATEN OFF.

General site description:

OPEN EXPOSURE ON CONCAVE RESIDUAL LOWER SLOPE, DRY AREA, SANDY SOIL, CALC METASEDIMENT PARENT MATERIAL. ASSOCIATED DOMINANT SPECIES: CHRYSOTHAMNUS NAUSEOSUS, FESTUCA IDAHOENSIS, AGROPYRON SPICATUM. ADDITIONAL ASSOCIATED SPECIES: HAPLOPAPPUS ACAULIS, MACHAERANTHERA CANESCENS.

Land owner/manager:

PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:

PREDATION PROBABLY CAUSED BY ELK, BUT POSSIBLY DEER OR COWS. ECODATA PLOT #92PL115

Information source:

LESICA, P. DIVISION OF BIOLOGICAL SCIENCES, UNIV. OF MONTANA, MISSOULA, MT 59812.

Specimens:



MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: RANUNCULUS VERECUNDUS  
Common Name: TIMBERLINE BUTTERCUP

Global rank: G5 Forest Service status:  
State rank: S1 Federal Status:

Element occurrence code: PDRAN0L2Q0.005  
Element occurrence type:

Survey site name: HELLS CANYON  
EO rank:  
EO rank comments:

County: MADISON

USGS quadrangle: TABLE MOUNTAIN

Township/Range Section: TRS Note:  
001S007W 16 S2S2; 21

Survey date: 1992-07-30 Elevation: 9200 - 9300  
First observation: 1992 07-30 Slope/aspect: 10% / SOUTH  
Last observation: 1992-07-30 Size (acres): 1

Location:  
HIGHLAND MOUNTAINS SOUTH OF BUTTE; CA. 0.6 MILE DUE WEST OF THE PEAK  
OF TABLE MOUNTAIN. SITE IS ALONG DRAINAGE AT HEAD OF CIRQUE.

Element occurrence data:  
200-500 INDIVIDUALS, MAINLY FLOWERING.

General site description:  
OPEN EXPOSURE ON BOTTOM OF MOIST, NARROW ALPINE CIRQUE. WET-ORGANIC  
SOIL, QUARTZITE PATENT MATERIAL. ASSOCIATED DOMINANT SPECIES:  
DESCHAMPSIA CESPITOSA, CAREX PAYSONIS. ADDITIONAL ASSOCIATED PLANT  
SPECIES; VERONICA WORMSKJOLDII, EPILOBIUM ALPINUM, CAREX ALBONIGRA,  
AGROSTIS HUMILIS.

Land owner/manager:  
DEERLODGE NATIONAL FOREST, JEFFERSON RANGER DISTRICT

Comments:  
SOME BIGHORN OR GOAT GRAZING EVIDENT.

Information source:  
LESICA, P. DIVISION OF BIOLOGICAL SCIENCES, UNIVERSITY OF MONTANA,  
MISSOULA, MT 59812.

Specimens:  
LESICA, P. (5820). 1992. MONTU.



MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: THLASPI PARVIFLORUM  
Common Name: SMALL-FLOWERED PENNYCRESS

Global rank: G3 Forest Service status: SENSITIVE  
State rank: S2 Federal Status:

Element occurrence code: PDBRA2P050.007  
Element occurrence type:

Survey site name: MOUNT HUMBUG  
EO rank:  
EO rank comments:

County: SILVER BOW

USGS quadrangle: MOUNT HUMBUG

Township/Range Section: TRS Note:  
001S008W 01 W2NW4

Survey date: Elevation: 6950 -  
First observation: 1992-06-30 Slope/aspect: 5% / NORTHWEST  
Last observation: 1992-06-30 Size (acres): 5

Location:  
HIGHLAND MOUNTAINS SOUTH OF BUTTE. FROM JUNCTION OF HIGHLAND ROAD (FS RD 84) AND CAMP CREEK ROAD (FS RD 8520), TAKE HIGHLAND ROAD WEST CA. 1.2 MILES. SITE IS 0.25 MILES SOUTH ON SOUTH SIDE OF CREEK.

Element occurrence data:  
1,000-10,000 INDIVIDUALS, IN FRUIT; EVIDENCE OF SEED DISPERSAL.

General site description:  
OPEN EXPOSURE ON STRAIGHT BOTTOM SLOPE, MOIST AREA ON FLOODPLAIN IN WIDE VALLEY, SILTY SOIL, ALLUVIUM PARENT MATERIAL. ASSOCIATED DOMINANT SPECIES: POTENTILLA FRUTICOSA, JUNCUS BALTICUS, POA JUNCIFOLIA. ADDITIONAL ASSOCIATED SPECIES: POA PRATENSIS, TARAXACUM OFFICINALE, POTENTILLA DIVERSIFOLIA.

Land owner/manager:  
DEERLODGE NATIONAL FOREST, BUTTE RANGER DISTRICT

Comments:  
EXOTICS, EVIDENCE OF LIVESTOCK GRAZING. ECODATA PLOT #92PL112.

Information source:  
LESICA, P. DIVISION OF BIOLOGICAL SCIENCES, UNIV. OF MONTANA, MISSOULA, MT 59812.

Specimens:



MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: THLASPI PARVIFLORUM  
Common Name: SMALL-FLOWERED PENNYCRESS

Global rank: G3 Forest Service status: SENSITIVE  
State rank: S2 Federal Status:

Element occurrence code: PDBRA2P050.008  
Element occurrence type:

Survey site name: MOUNT HUMBUG  
EO rank:  
EO rank comments:

County: SILVER BOW

USGS quadrangle: MOUNT HUMBUG

Township/Range Section: TRS Note:  
001N007W 31 NE4SW4, SE4NW4

Survey date:	Elevation: 7300 - 7350
First observation: 1992-06-26	Slope/aspect: 5% / SOUTHEAST
Last observation: 1992-06-26	Size (acres): 3

Location:  
HIGHLAND MOUNTAINS SOUTH OF BUTTE. SITE IS AT JUNCTION OF HIGHLAND ROAD (FS RD 84) AND CAMP CREEK ROAD (FS RD 8520) ON WEST EDGE OF LODGEPOLE.

Element occurrence data:  
100-1,000 INDIVIDUALS, FRUITING, EVIDENCE OF SEED DISPERSAL.

General site description:  
OPEN EXPOSURE ON STRAIGHT TERRACE; MOIST AREA ON RESIDUAL MOUNTAIN SLOPES, SILTY SOIL OF ALLUVIUM PARENT MATERIAL. ASSOCIATED DOMINANT SPECIES: POTENTILLA FRUTICOSA, POA PRATENSIS, TARAXACUM OFFICINALE. ADDITIONAL ASSOCIATED SPECIES: BROMUS CARINATUS, POTENTILLA GRACILIS, ERIGERON GRACILIS.

Land owner/manager:  
DEERLODGE NATIONAL FOREST, BUTTE RANGER DISTRICT  
PRIVATELY OWNED LAND (INDIVIDUAL OR CORPORATE)

Comments:  
ROADS, LIVESTOCK AND ABUNDANT GOPHER ACTIVITY. ECODATA PLOT #92PL104.

Information source:  
LESICA, P. DIVISION OF BIOLOGICAL SCIENCES, UNIV. OF MONTANA, MISSOULA, MT 59812.

Specimens:  
LESICA, P. (5723). 1992. MONTU.





MONTANA NATURAL HERITAGE PROGRAM  
Element Occurrence Record

Scientific Name: VIOLA RENIFOLIA  
Common Name: KIDNEY-LEAF WHITE VIOLET

Global rank: G5 Forest Service status: SENSITIVE  
State rank: S1 Federal Status:

Element occurrence code: PDVIO041V0.010  
Element occurrence type:

Survey site name: SOUTH FORK TUCKER CREEK  
EO rank:  
EO rank comments:

County: SILVER BOW

USGS quadrangle: TUCKER CREEK

Township/Range Section: TRS Note:  
001N008W 31 SW4  
001N009W 36 NW4

Survey date: Elevation: 6120 - 6520  
First observation: 1992-06-27 Slope/aspect: 5% / -  
Last observation: 1992-06-27 Size (acres):

Location:  
FROM DIVIDE (TOWN) TAKE FRONTAGE ROAD NORTH CA. 5 MILES. GO EAST UNDER  
I-15 TO RANCH. TAKE ROAD TO RESERVOIR CA. 1 MILE, THEN SIDEHILL EAST  
TO CREEK. SITE IS CA. 1 MILE UPSTREAM ALONG CREEK.

Element occurrence data:  
100+ INDIVIDUALS IN TWO SUBPOPULATIONS; CLEISTOGAMOUS FLOWERS AND  
MATURE FRUIT.

General site description:  
SHADED BOTTOM; MOIST AREA IN RESIDUAL MOUNTAIN STREAM VALLEY. SILTY  
SOIL OF ALLUVIAL PARENT MATERIAL. ASSOCIATED DOMINANT SPECIES: PICEA  
ENGELMANNII, PSEUDOTSUGA MENZIESII. ADDITIONAL ASSOCIATED PLANT  
SPECIES: ACTAEA RUBRA, RIBES HUDSONIANUM, PYROLA OSARIFOLIA.

Land owner/manager:  
HUMBUG SPIRES PRIMITIVE AREA  
BLM: BUTTE DISTRICT, HEADWATERS RESOURCE AREA  
STATE LAND - UNDESIGNATED

Comments:  
ENTIRE CREEK NOT SURVEYED. STREAM IN FLOOD; SOME LIVESTOCK USE.

Information source:  
LESICA, P. DIVISION OF BIOLOGICAL SCIENCES, UNIV. OF MONTANA,  
MISSOULA, MT 59812.

Specimens:  
LESICA, P. (5731). 1992. MONTU.



Appendix C. ECODATA plot forms for plant communities associated with populations of sensitive plant species in the Highland Mountains.



Area 1000  
014

# COMMUNITY SURVEY FORM

MTNHP

5/27/91

## GENERAL PLOT DATA

### IDENTIFICATION AND LOCATION

PLOT NO. 92 PL 105 MO 06 DAY 29 YEAR 92 MANUAL        UNITS x ft        m  
EXAMINER(S) LESLIE A EOCODE        +  
PNC        CT         
SITE        STATE MT COUNTY Silver Bow  
PURP        PREC        QUADNAME PIPESTONE PASS QUADCODE 4511279  
1N T/7W R/28 S/5W 4S/5E 4/4 COMMUNITY SIZE (acres) 30  
PLOT TYPES        PLTRL        PLOT W        SURVEY         
PHOTOS        11  
DIRECTIONS -->       

### CONSERVATION RANKING

COND        Com:         
VIAB        Com:         
DEFN        Com:         
RANK        Com:         
MGMT:         
PROT:       

### ENVIRONMENTAL FEATURES

DL 6 SOIL RPT         
SOIL UNIT        SOIL TAXON         
PMMETU        LANDFORM RMPD PLOT POS SLLS SLP SHAPE 5 ASP 160  
SLOPE % 60 ELEVATION 7150 EROS POTENT up EROS TYPE SE  
HORIZON ANGLE (%): N        E        S        W        IFSLP        IFVAL         
SPFE         
GROUND COVER: 20 S + 30 G + 30 R + 20 L + 0 W + 0 M + 10 BV + 60 = 100%  
DISTURBANCE HISTORY (type, intensity, frequency, season) -->         
Livestock/wildlife trails  
old mining claims

RIPARIAN FEATURES: Channel Width        Channel Entrench         
Surface Water        Ht. Abv. H2O        Dist. from H2O       

### GENERAL SITE DESCRIPTION (landscape features and adjacent ct's)

Parent material is calcareous metasediment

## PittIDL

TREES	Tot Cv	MHT	CC	FRBS	Tot Cv	MHT	CC
	Tal Cv	Med Cv			Med Cv	Low Cv	
	Low Cv	Grd Cv			Grd Cv		
T 1	/	PINFLE	T	F 1	/	SENCAN	10
T 2	/			F 2	/	ALGER	1
T 3	/			F 3	/	LINPER	3
T 4	/			F 4	/	PENARE	1
T 5	/			F 5	/	VIDADU	1
SHRBS	Tot Cv 10	MHT 0.5		F 6	/	COMUMB	T
	Tal Cv	Med Cv		F 7	/	ALYALY	1
	Low Cv	Grd Cv	CC	F 8	/	CERARV	3
S 1	/	GRTFRI	10	F 9	/	SEDCAN	1
S 2	/	POSWOO	T	F 10	/	TRADUB	T
S 3	/	POTFRU	1	F 11	/	PHYGEY	T
S 4	/			F 12	/	DRADLI	T
S 5	/			F 13	/	GAIARI	T
S 6	/			F 14	/	HAPACA	1
S 7	/			F 15	/	SMISTE	T
S 8	/				/	FKHMIL	T
S 9	/				/	CHRUIL	1
S 10	/				/	CAMROT	3
S 11	/				/	SOLMIS	1
S 12	/				/	CASPAL	T
GRAM	Tot Cv 30	MHT 1.0			/	ERICOM	3
	Med Cv	Low Cv			/	GRANUT	T
	Grd Cv		CC		/	TAROFF	T
G 1	/	AGRSPI	30		/	ARAFCC	T
G 2	/	KOECRI	3		/	ERYASP	T
G 3	/	CARROS	1		/	CRYSOB	T
G 4	/	POAPRA	T		/		
G 5	/				/		
G 6	/				/		
G 7	/				/		
G 8	/				/		
G 9	/				/		
G 10	/				/		
G 11	/				/		
G 12	/				/		

COMMENTS (EODATA) -->

*Arceuthobium*  
015

# COMMUNITY SURVEY FORM

MTNHP

5/27/91

## GENERAL PLOT DATA

## IDENTIFICATION AND LOCATION

PLOT NO. 72 R110 MO 06 DAY 29 MANUAL \_\_\_\_\_ UNITS X it \_\_\_\_\_  
EXAMINER(S) LESLIE YEAR 92 EOCODE \_\_\_\_\_  
PNC \_\_\_\_\_ CT \_\_\_\_\_  
SITE \_\_\_\_\_ STATE MT COUNTY SILVER BOW  
PURP \_\_\_\_\_ PREC \_\_\_\_\_ QUADNAME PIPESTONE PASS QUADCODE 4511274  
1W T/7W/R/27S/11W/4S/5E 4/4 COMMUNITY SIZE (acres) 20  
PLOT TYPES \_\_\_\_\_ PLTRL \_\_\_\_\_ PLOT W \_\_\_\_\_ SURVEY \_\_\_\_\_  
PHOTOS 13  
DIRECTIONS -->

## CONSERVATION RANKING

COND \_\_\_\_\_ Com: \_\_\_\_\_  
VIAB \_\_\_\_\_ Com: \_\_\_\_\_  
DEFN \_\_\_\_\_ Com: \_\_\_\_\_  
RANK \_\_\_\_\_ Com: \_\_\_\_\_  
MGMT: \_\_\_\_\_  
PROT: \_\_\_\_\_

## ENVIRONMENTAL FEATURES

DL 6 SOIL RPT \_\_\_\_\_  
SOIL UNIT \_\_\_\_\_ SOIL TAXON \_\_\_\_\_  
PM MTU LANDFORM RMD PLOT POS SLUS SLP SHAPE U ASP 135  
SLOPE % 75 ELEVATION 7420 EROS POTENT SA EROS TYPE SE  
HORIZON ANGLE (%): N \_\_\_\_\_ E \_\_\_\_\_ S \_\_\_\_\_ W \_\_\_\_\_ IFSLP \_\_\_\_\_ IFVAL \_\_\_\_\_  
SPFE \_\_\_\_\_  
GROUND COVER: 10 S + 30 G + 40 R + 10 L + 10 W + 0 M + 3 BV + 10 O = 100%  
DISTURBANCE HISTORY (type, intensity, frequency, season) --> \_\_\_\_\_

RIPARIAN FEATURES: Channel Width \_\_\_\_\_ Channel Entrench \_\_\_\_\_  
Surface Water \_\_\_\_\_ Ht. Abv. H2O \_\_\_\_\_ Dist. from H2O \_\_\_\_\_

## GENERAL SITE DESCRIPTION (landscape features and adjacent ct's)

Pgmc - Pifl - Juco below

## OCULAR PLANT SPECIES DATA

PITIDL

PLOT NO. 41 P4113				NO. SPECIES 21		PNC	
TREES		Tot Cv 1	Mht 5	FRBS		Tot Cv 20	Mht 4
		Tal Cv	Med Cv			Med Cv	Low Cv
		Low Cv	Grd Cv			Grd Cv	CC
T 1		/ PINFL	1	F 1		/ MAPACA	20
T 2		/ ISEHEN	1	F 2		/ SENARI	1
T 3		/		F 3		/ ALLER	1
T 4		/		F 4		/ ARREEC	1
T 5		/		F 5		/ PHYGEE	1
				F 6		/ CAMROT	1
SHRBS		Tot Cv 10	Mht 1.0	F 7		/ SEDLAN	1
		Tal Cv	Med Cv	F 8		/ CRYSOB	1
		Low Cv	Grd Cv	F 9		/ ALYALY	1
			CC	F 10		/ CAS DAL	1
S 1		/ POTFRU	10	F 11		/ CHMIL	1
S 2		/ ABTTAI	1	F 12		/ SENKAN	1
S 3		/ TANCOM	1	F 13		/ MERBEL	1
S 4		/		F 14		/ DRACLI	1
S 5		/		F 15		/	
S 6		/				/	
S 7		/				/	
S 8		/				/	
S 9		/				/	
S 10		/				/	
S 11		/				/	
S 12		/				/	
GRAM		Tot Cv 10	Mht 1.5				
		Med Cv	Low Cv				
		Grd Cv	CC				
G 1		/ AGRSPI	10				
G 2		/ KOECRI	1				
G 3		/					
G 4		/					
G 5		/					
G 6		/					
G 7		/					
G 8		/					
G 9		/					
G 10		/					
G 11		/					
G 12		/					
				FERN Tot Cv 0 Mht Med Cv			
				Low Cv Grd Cv			
				BRYO/LICH Tot Cv 10			

COMMENTS (ECODATA) --&gt;



Arabis lewisi  
016

# COMMUNITY SURVEY FORM

MTNHP

5/27/91

## GENERAL PLOT DATA

### IDENTIFICATION AND LOCATION

PLOT NO. 92 PL106 MO 06 DAY 27 MANUAL        UNITS X ft        m  
EXAMINER(S) LESICA YEAR 92 EOCODE        \*  
PNC        CT         
SITE        STATE MT COUNTY SILVER BOW  
PURP        PREC        QUADNAME TUCKER CREEK QUADCODE         
IN T/8W R/31 S/NW4S/SE.4/4 COMMUNITY SIZE (acres) 20  
PLOT TYPES        PLTRL        PLOT W        SURVEY         
PHOTOS         
DIRECTIONS -->

### CONSERVATION RANKING

COND        Com:         
VIAB        Com:         
DEFN        Com:         
RANK        Com:         
MGMT:         
PROT:       

### ENVIRONMENTAL FEATURES

DL S SOIL RPT         
SOIL UNIT        SOIL TAXON         
PMMETU        LANDFORM RMP PLOT POS SLLS SLP SHAPE R ASP 215  
SLOPE % 50 ELEVATION 6200 EROS POTENT AP EROS TYPE GE  
HORIZON ANGLE (%): N        E        S        W        IFSLP        IFVAL         
SPFE         
GROUND COVER: 20 S+ 40 G+ 10 R+ 20 L+ 1 W+ 1 M+ 10 BV+ 1 O        = 100%  
DISTURBANCE HISTORY (type, intensity, frequency, season)-->       

RIPARIAN FEATURES: Channel Width        Channel Entrench         
Surface Water        Ht. Abv. H2O        Dist. from H2O       

### GENERAL SITE DESCRIPTION (landscape features and adjacent ct's)

Parent material is calcareous metasediment

## OCULAR PLANT SPECIES DATA

PLTID#

PLOT NO. 42 PL106 NO. SPECIES 23 PNC

TREES				FRBS			
Tot Cv 10		Mht 30		Tot Cv 20		Mht <	
Tal Cv		Med Cv		Med Cv		Low Cv	
Low Cv		Grd Cv		Grd Cv		CC	
T 1	/	ISEMEN	T	F 1	/	HAPACA	10
T 2	/	JUNSCO	10	F 2	/	CUMBIP	3
T 3	/	PINFLE	T	F 3	/	CASSAL	T
T 4	/			F 4	/	ACHMIL	T
T 5	/			F 5	/	ALICER	T
				F 6	/	ABAFEC	T
SHRBS	Tot Cv 50	Mht 6		F 7	/	PENERT	1
	Tal Cv	Med Cv		F 8	/	IPOSPI	T
	Low Cv	Grd Cv	CC	F 9	/	LINPER	T
S 1	/	CERLED	50	F10	/	LENCAH	T
S 2	/	ARTERT	T	F11	/	CRYSOB	T
S 3	/	ARTTRE	T	F12	/	SEPLAN	T
S 4	/			F13	/	LITRUD	T
S 5	/			F14	/	MERCRL	T
S 6	/			F15	/		
S 7	/				/		
S 8	/				/		
S 9	/				/		
S10	/				/		
S11	/				/		
S12	/				/		
GRAM	Tot Cv 3	Mht 1.0			/		
	Med Cv	Low Cv			/		
	Grd Cv		CC		/		
G 1	/	AGRSPI	3		/		
G 2	/	CARROS	T		/		
G 3	/	YOEERI	T		/		
G 4	/				/		
G 5	/				/		
G 6	/				/		
G 7	/				/		
G 8	/				/		
G 9	/				/		
G10	/				/		
G11	/				/		
G12	/				/		
				FERN Tot Cv 0 Mht Low Cv Grd Cv			
				BRYO/LICH Tot Cv 3			

COMMENTS (EODATA) --&gt;

Arabis Lemmonii  
017

## COMMUNITY SURVEY FORM

MTNHP

5/27/91

### GENERAL PLOT DATA

#### IDENTIFICATION AND LOCATION

PLOT NO. 92PL105 MO 06 DAY 27 MANUAL \_\_\_\_\_ UNITS X ft \_\_\_\_\_ m  
EXAMINER(S) LESICA YEAR 92 ECODE \_\_\_\_\_  
PNC \_\_\_\_\_ CT \_\_\_\_\_  
SITE \_\_\_\_\_ STATE MT COUNTY SILVER BOW  
PURP \_\_\_\_\_ PREC \_\_\_\_\_ QUADNAME TUCKER CREEK QUADCODE \_\_\_\_\_  
15 T/94 R/1 S/N44S/N44W4/4 COMMUNITY SIZE (acres) 30  
PLOT TYPES \_\_\_\_\_ PLTRL \_\_\_\_\_ PLOT W \_\_\_\_\_ SURVEY \_\_\_\_\_  
PHOTOS \_\_\_\_\_  
DIRECTIONS --> \_\_\_\_\_

#### CONSERVATION RANKING

COND \_\_\_\_\_ Com: \_\_\_\_\_  
VIAB \_\_\_\_\_ Com: \_\_\_\_\_  
DEFN \_\_\_\_\_ Com: \_\_\_\_\_  
RANK \_\_\_\_\_ Com: \_\_\_\_\_  
MGMT: \_\_\_\_\_  
PROT: \_\_\_\_\_

#### ENVIRONMENTAL FEATURES

DL S SOIL RPT \_\_\_\_\_  
SOIL UNIT \_\_\_\_\_ SOIL TAXON \_\_\_\_\_  
PM MCU LANDFORM RMD PLOT POS SUMS SLP SHAPE 1 ASP 190  
SLOPE % 35 ELEVATION 6700 EROS POTENT UP EROS TYPE GE  
HORIZON ANGLE (°): N \_\_\_\_\_ E \_\_\_\_\_ S \_\_\_\_\_ W \_\_\_\_\_ IFSLP \_\_\_\_\_ IFVAL \_\_\_\_\_  
SPFE \_\_\_\_\_  
GROUND COVER: 20 S+ 40 G+ 10 R+ 20 L+ 1 W+ T M+ 10 BV+ 3 O = 100%  
DISTURBANCE HISTORY (type, intensity, frequency, season)--> \_\_\_\_\_

RIPARIAN FEATURES: Channel Width \_\_\_\_\_ Channel Entrench \_\_\_\_\_  
Surface Water \_\_\_\_\_ Ht. Abv. H2O \_\_\_\_\_ Dist. from H2O \_\_\_\_\_

#### GENERAL SITE DESCRIPTION (landscape features and adjacent ct's)

Parent material is calcareous metasediment

# OCULAR PLANT SPECIES DATA

PLTIDL

PLOT NO. <u>92 PL105</u> NO. SPECIES <u>27</u> INC			
TREES Tot Cv <u>7</u> MHT <u>2.0</u>		FRBS Tot Cv <u>20</u> MHT <u>&lt;</u>	
Tal Cv Med Cv		Med Cv Low Cv	
Low Cv Grd Cv		Grd Cv	
CC		CC	
T 1	/PSEMEN	T	F 1
T 2	/JUNCO	T	F 2
T 3	/		F 3
T 4	/		F 4
T 5	/		F 5
			F 6
SHRBS Tot Cv <u>46</u> MHT <u>5</u>		F 7	
Tal Cv Med Cv		F 8	
Low Cv Grd Cv		F 9	
CC		F 10	
S 1	/CERLEO	40	F 11
S 2	/TETCAN	3	F 12
S 3	/BETEEZ	T	F 13
S 4	/		F 14
S 5	/		F 15
S 6	/		
S 7	/		
S 8	/		
S 9	/		
S 10	/		
S 11	/		
S 12	/		
GRAM Tot Cv <u>16</u> MHT <u>1.0</u>			
Med Cv Low Cv			
Grd Cv			
CC			
G 1	/ORYHYM	3	
G 2	/CARFEL	T	
G 3	/POASEC	T	
G 4	/AGRSPI	10	
G 5	/KOEERI	T	
G 6	/STICOM	T	
G 7	/		
G 8	/		
G 9	/		
G 10	/		
G 11	/		
G 12	/		
		FERN Tot Cv <u>0</u> MHT Med Cv	
		Low Cv Grd Cv	
		BRYO/LICH Tot Cv <u>3</u>	

COMMENTS (EODATA) -->

Acres Survey 018

# COMMUNITY SURVEY FORM

MTNHP

5/27/91

## GENERAL PLOT DATA

### IDENTIFICATION AND LOCATION

PLOT NO. 72 PL102 MO 06 DAY 26 YEAR 92 EOCODE        MANUAL        UNITS X ft        m  
EXAMINER(S) LESICA  
PNC        CT         
SITE        STATE MT COUNTY SILVER BOW  
PURP        PREC        QUADNAME MOUNT HUMBURG QUADCODE 4511275  
1S T/ 3W R/ 3 S/ NW 4S/ NW 4/4 COMMUNITY SIZE (acres) 10  
PLOT TYPES        PLTRL        PLOT W        SURVEY         
PHOTOS         
DIRECTIONS -->       

### CONSERVATION RANKING

COND        Com:         
VIAB        Com:         
DEFN        Com:         
RANK        Com:         
MGMT:         
PROT:       

### ENVIRONMENTAL FEATURES

DL C SOIL RPT         
SOIL UNIT        SOIL TAXON         
PM DOLO? LANDFORM R1P4 PLOT POS 5445 SLP SHAPE 14 ASP 170  
SLOPE % 35 ELEVATION 6920 EROS POTENT UP EROS TYPE SE  
HORIZON ANGLE (°): N        E        S        W        IFSLP        IFVAL         
SPFE         
GROUND COVER: 60S+ 10G+ 0R+ 20L+ 1W+ 0M+ 10BV+ 0O = 100%  
DISTURBANCE HISTORY (type, intensity, frequency, season)-->       

RIPARIAN FEATURES: Channel Width        Channel Entrench         
Surface Water        Ht. Abv. H2O        Dist. from H2O       

### GENERAL SITE DESCRIPTION (landscape features and adjacent ct's)

# OCULAR PLANT SPECIES DATA

Plot ID:           

PLOT NO. 42 P102 NO. SPECIES 22 PNC           

TREES Tot cv 20 Mht 25  
Tal cv            Med cv             
Low cv            Grd cv            CC           

T 1	/ PINFL	20
T 2	/	
T 3	/	
T 4	/	
T 5	/	

SHRBS Tot cv 20 Mht 0.5  
Tal cv            Med cv             
Low cv            Grd cv            CC           

S 1	/ JUNCOM	10
S 2	/ ARCUVA	10
S 3	/ TETCAN	1
S 4	/ ARTERI	1
S 5	/ ROSWED	1
S 6	/	
S 7	/	
S 8	/	
S 9	/	
S10	/	
S11	/	
S12	/	

GRAM Tot cv 10 Mht 1.0  
Med cv            Low cv             
Grd cv            CC           

G 1	/ AGRSPI	10
G 2	/ KOECRI	T
G 3	/ POASEC	T
G 4	/	
G 5	/	
G 6	/	
G 7	/	
G 8	/	
G 9	/	
G10	/	
G11	/	
G12	/	

FRBS Tot cv 10 Mht <  
Med cv            Low cv             
Grd cv            CC           

F 1	/ SEDIAN	3
F 2	/ GALBOR	T
F 3	/ ARECON	1
F 4	/ ALLCER	1
F 5	/ CRYSOB	T
F 6	/ SENCAN	3
F 7	/ ACHMIL	T
F 8	/ HAPALA	T
F 9	/ ARATEC	T
F10	/ CERVIL	T
F11	/ PHYGEY	T
F12	/ DRAOLI	T
F13	/ GAIARE	T
F14	/	
F15	/	

FERN Tot cv 0 Mht            Med cv             
Low cv            Grd cv             
BRYO/LICH Tot cv 0

COMMENTS (EODATA) -->

Arden Lewis 018

# COMMUNITY SURVEY FORM

MTNHP

5/27/91

## GENERAL PLOT DATA

### IDENTIFICATION AND LOCATION

PLOT NO. 92 PL 101 MO 06 DAY 26 MANUAL \_\_\_\_\_ UNITS X ft \_\_\_\_\_ m  
EXAMINER(S) LESICA YEAR 92 ECODE \_\_\_\_\_ \*  
PNC \_\_\_\_\_ CT \_\_\_\_\_  
SITE \_\_\_\_\_ STATE MT COUNTY SILVER BOW  
PURP \_\_\_\_\_ PREC \_\_\_\_\_ QUADNAME MOUNT HUMBOLDT QUADCODE 4511275  
1N T/3W R/35 S/5W 4S/NW 4/4 COMMUNITY SIZE (acres) 10  
PLOT TYPES \_\_\_\_\_ PLTRL \_\_\_\_\_ PLOT W \_\_\_\_\_ SURVEY \_\_\_\_\_  
PHOTOS \_\_\_\_\_  
DIRECTIONS ---> \_\_\_\_\_

### CONSERVATION RANKING

COND \_\_\_\_\_ Com: \_\_\_\_\_  
VIAB \_\_\_\_\_ Com: \_\_\_\_\_  
DEFN \_\_\_\_\_ Com: \_\_\_\_\_  
RANK \_\_\_\_\_ Com: \_\_\_\_\_  
MGMT: \_\_\_\_\_  
PROT: \_\_\_\_\_

### ENVIRONMENTAL FEATURES

DL F SOIL RPT \_\_\_\_\_  
SOIL UNIT \_\_\_\_\_ SOIL TAXON \_\_\_\_\_  
PM MTU LANDFORM RMD PLOT POS SLMS SLP SHAPE R ASP 200  
SLOPE % 50 ELEVATION 6950 EROS POTENT UP EROS TYPE SE  
HORIZON ANGLE (%): N \_\_\_\_\_ E \_\_\_\_\_ S \_\_\_\_\_ W \_\_\_\_\_ IFSLP \_\_\_\_\_ IFVAL \_\_\_\_\_  
SPFE \_\_\_\_\_  
GROUND COVER: 10 S+ 60 G+ 20 R+ 1 L+ 0 W+ 0 M+ 3 BV+ 10 O = 100%  
DISTURBANCE HISTORY (type, intensity, frequency, season) --> Natural erosion

RIPARIAN FEATURES: Channel Width \_\_\_\_\_ Channel Entrench \_\_\_\_\_  
Surface Water \_\_\_\_\_ Ht. Abv. H2O \_\_\_\_\_ Dist. from H2O \_\_\_\_\_

### GENERAL SITE DESCRIPTION (landscape features and adjacent ct's)

Parent material is calcareous metasediment

## PltIDL

TREES	Tot	Cv	<u>0</u>	Mht	_____	
	Tal	Cv	_____	Med	Cv	_____
	Low	Cv	_____	Grd	Cv	_____   CC

FRBS	Tot	Cv	<u>20</u>	Mht	<u>&lt;</u>	
				Med	Cv	_____   Low Cv _____
				Grd	Cv	_____   CC

SHRBS	Tot Cv 3	Mht 0.5		F 7	/ DOUMON	T
	Tal Cv	Med Cv		F 8	/ LITIFER	T
	Low Cv	Grd Cv	CC	F 9	/ APASEC	T

GRAM	Tot Cv <u>3</u>	Mht <u>0.5</u>			
	Med Cv <u>    </u>	Low Cv <u>    </u>			
	Grd Cv <u>    </u>		CC		

G 1	/	AGRSPI	3		
G 2	/	KOEARI	1		
G 3	/				
G 4	/				
G 5	/				
G 6	/				
G 7	/				
G 8	/				
G 9	/				
G10	/				
G11	/				
G12	/				

FERN Tot Cv 0 MHT

Low Cv

BRYO/LICH Tot Cv 16

Med Cv

Grd Cv

COMMENTS (EODATA) --> \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



# COMMUNITY SURVEY FORM

MTNHP

5/27/91

## GENERAL PLOT DATA

### IDENTIFICATION AND LOCATION

PLOT NO. 92PL103 MO 06 DAY 26 MANUAL \_\_\_\_\_ UNITS X ft \_\_\_\_\_ m  
 EXAMINER(S) LESICA YEAR 92 EOCODE \_\_\_\_\_  
 PNC \_\_\_\_\_ CT \_\_\_\_\_  
 SITE \_\_\_\_\_ STATE MT COUNTY SILVER BOW  
 PURP \_\_\_\_\_ PREC \_\_\_\_\_ QUADNAME MOUNT HUMBURG QUADCODE 4511275  
1S T/SW R/3 S/SW 4S/SE 4/4 COMMUNITY SIZE (acres) 30  
 PLOT TYPES \_\_\_\_\_ PLTRL \_\_\_\_\_ PLOT W \_\_\_\_\_ SURVEY \_\_\_\_\_  
 PHOTOS \_\_\_\_\_  
 DIRECTIONS -->

### CONSERVATION RANKING

COND \_\_\_\_\_ Com: \_\_\_\_\_  
 VIAB \_\_\_\_\_ Com: \_\_\_\_\_  
 DEFN \_\_\_\_\_ Com: \_\_\_\_\_  
 RANK \_\_\_\_\_ Com: \_\_\_\_\_  
 MGMT: \_\_\_\_\_  
 PROT: \_\_\_\_\_

### ENVIRONMENTAL FEATURES

DL F SOIL RPT \_\_\_\_\_  
 SOIL UNIT \_\_\_\_\_ SOIL TAXON \_\_\_\_\_  
 PMMETU LANDFORM MDL PLOT POS SLMS SLP SHAPE u ASP 180  
 SLOPE % 45 ELEVATION 6850 EROS POTENT uP EROS TYPE SE  
 HORIZON ANGLE (°): N \_\_\_\_\_ E \_\_\_\_\_ S \_\_\_\_\_ W \_\_\_\_\_ IFSLP \_\_\_\_\_ IFVAL \_\_\_\_\_  
 SPFE \_\_\_\_\_  
 GROUND COVER: 10S+30G+20R+1L+T W+0 M+40 BV+30 = 100%  
 DISTURBANCE HISTORY (type, intensity, frequency, season)--> \_\_\_\_\_

RIPARIAN FEATURES: Channel Width \_\_\_\_\_ Channel Entrench \_\_\_\_\_  
 Surface Water \_\_\_\_\_ Ht. Abv. H2O \_\_\_\_\_ Dist. from H2O \_\_\_\_\_

### GENERAL SITE DESCRIPTION (landscape features and adjacent ct's)

Parent material is calcareous metasediment

## OCULAR PLANT SPECIES DATA

PltID# \_\_\_\_\_

PLOT NO. 42114 NO. SPECIES 35 PNC \_\_\_\_\_

TREES				FRBS			
Tot Cv	Mht			Tot Cv	Mht		
Tal Cv	Med Cv			Med Cv	Low Cv		
Low Cv	Grd Cv	CC		Grd Cv		CC	
T 1	/			F 1	/CIRSEA	1	
T 2	/			F 2	/POTGRA	10	
T 3	/			F 3	/FENFRO	1	
T 4	/			F 4	/GEUTRI	3	
T 5	/			F 5	/FRAVIR	40	
				F 6	/STELON	1	
SHRBS	Tot Cv <u>40</u>	Mht <u>2.0</u>		F 7	/GENAMA	1	
	Tal Cv	Med Cv		F 8	/GIMSAL	T	
	Low Cv	Grd Cv	CC	F 9	/SENFoe	10	
S 1	/POTFAU	40		F10	/ANTHIC	1	
S 2	/ARTTAE	1		F11	/ECHMIL	1	
S 3	/SALIEM	3		F12	/VIDADU	1	
S 4	/			F13	/SENPAL	3	
S 5	/			F14	/GUMMOX	1	
S 6	/			F15	/ASTFOL	T	
S 7	/				/RANINA	T	
S 8	/						
S 9	/						
S10	/						
S11	/						
S12	/						
GRAM	Tot Cv <u>80</u>	Mht <u>1.0</u>					
	Med Cv	Low Cv					
	Grd Cv		CC3				
		PHLALP	3				
		HORBRA	3				
G 1	/POAPRA	10					
G 2	/POAJUN	10					
G 3	/AGRCAN	10					
G 4	/CARPET	10					
G 5	/CARIDA	T					
G 6	/STIOXC	T					
C 7	/JUNBAL	2.0					
G 8	/KOEERI	1					
G 9	/AGBSCA	T					
G10	/CARMIC	3					
G11	/BRECAR	T					
G12	/CARPRA	3					
	DESCES	30					
		CARLAS					

FERN			
Tot Cv	Mht	Med Cv	
Low Cv	Grd Cv		
BRYO/LICH	Tot Cv <u>3</u>		

COMMENTS (EODATA) --&gt; \_\_\_\_\_

*Carex polygama ssp. Hudson.*  
001

# COMMUNITY SURVEY FORM

MTNHP

5/27/91

## GENERAL PLOT DATA

### IDENTIFICATION AND LOCATION

MANUAL \_\_\_\_\_ UNITS X ft \_\_\_\_\_ m  
PLOT NO. 92 PL 114 MO 57 DAY 11 YEAR 92 EOCODE \_\_\_\_\_  
EXAMINER(S) \_\_\_\_\_  
PNC \_\_\_\_\_ CT \_\_\_\_\_  
SITE \_\_\_\_\_ STATE MT COUNTY Silver Beach  
PURP \_\_\_\_\_ PREC \_\_\_\_\_ QUADNAME MOUNT HUMBUG QUADCODE 4511275  
1N T/8W R/35 S/50 4S/104/4 COMMUNITY SIZE (acres) \_\_\_\_\_  
PLOT TYPES \_\_\_\_\_ PLTRL 50 PLOT W 20 SURVEY \_\_\_\_\_  
PHOTOS 132  
DIRECTIONS --> \_\_\_\_\_

### CONSERVATION RANKING

COND \_\_\_\_\_ Com: \_\_\_\_\_  
VIAB \_\_\_\_\_ Com: \_\_\_\_\_  
DEFN \_\_\_\_\_ Com: \_\_\_\_\_  
RANK \_\_\_\_\_ Com: \_\_\_\_\_  
MGMT: \_\_\_\_\_  
PROT: \_\_\_\_\_

### ENVIRONMENTAL FEATURES

DL \_\_\_\_\_ SOIL RPT \_\_\_\_\_  
SOIL UNIT \_\_\_\_\_ SOIL TAXON \_\_\_\_\_  
PM SIAL LANDFORM ACFP PLOT POS NVLE SLP SHAPE S ASP 250  
SLOPE % 5 ELEVATION 6850 EROS POTENT 5A EROS TYPE A/D  
HORIZON ANGLE (%): N \_\_\_\_\_ E \_\_\_\_\_ S \_\_\_\_\_ W \_\_\_\_\_ IFSLP \_\_\_\_\_ IFVAL \_\_\_\_\_  
SPFE \_\_\_\_\_  
GROUND COVER: 0 S+ 0 G+ 0 R+ 80 L+ 1 W+ 3 M+ 10 BV+ 0 O = 100%  
DISTURBANCE HISTORY (type, intensity, frequency, season) --> \_\_\_\_\_  
Livestock grazing  
Adjacent Road

RIPARIAN FEATURES: Channel Width \_\_\_\_\_ Channel Entrench \_\_\_\_\_  
Surface Water \_\_\_\_\_ Ht. Abv. H2O \_\_\_\_\_ Dist. from H2O \_\_\_\_\_

### GENERAL SITE DESCRIPTION (landscape features and adjacent ct's)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## OCULAR PLANT SPECIES DATA

PltIDL

PLOT NO. 9296114		NO. SPECIES 35		PNC	
TREES		Tot Cv 0	Mht		
		Tal Cv	Med Cv		
		Low Cv	Grd Cv	CC	
T 1	/			F 1	/CIRSCA 1
T 2	/			F 2	/POTGRA 10
T 3	/			F 3	/PENPRO 1
T 4	/			F 4	/GEUTRI 3
T 5	/			F 5	/FRAUER 40
				F 6	/STELON 1
SHRBS		Tot Cv 40	Mht 2.0		
		Tal Cv	Med Cv		
		Low Cv	Grd Cv	CC	
S 1	/POTFAU	40		F 7	/GENAMA 1
S 2	/ARTTRI	1		F 8	/DINCA 1
S 3	/GULEM	3		F 9	/SENFGE 10
S 4	/			F 10	/ANTHIC 1
S 5	/			F 11	/ACMIL 1
S 6	/			F 12	/VIDADU 1
S 7	/			F 13	/SENPAL 3
S 8	/			F 14	/GELMAC 1
S 9	/			F 15	/ASTFOL 1
S 10	/				/RANINA 1
S 11	/				
S 12	/				
GRAM		Tot Cv 80	Mht 1.0		
		Med Cv	Low Cv		
		Grd Cv		CC 3	
G 1	/POAPRA	10			
G 2	/POAJUN	10			
G 3	/AGRCAN	10			
G 4	/CARPET	10			
G 5	/CARIDA	1			
G 6	/STIOCC	1			
G 7	/JUNBAL	20			
G 8	/KOEERI	1			
G 9	/AGRSSA	1			
G 10	/CARMIC	3			
G 11	/BROCAR	1			
G 12	/CARPRA	3			
	DESCES	30			
		CARLAS			
FERN		Tot Cv 0	Mht	Med Cv	
			Low Cv	Grd Cv	
BRYO/LICH		Tot Cv 3			

COMMENTS (EODATA) --&gt;

Career program of 12.000  
0.7

# COMMUNITY SURVEY FORM

MTNHP

5/27/91

## GENERAL PLOT DATA

### IDENTIFICATION AND LOCATION

PLOT NO. 92 PL 109 MO 06 DAY 29 MANUAL \_\_\_\_\_ UNITS X ft \_\_\_\_\_ m  
EXAMINER(S) Lesica YEAR 92 EOCODE \_\_\_\_\_  
PNC \_\_\_\_\_ CT \_\_\_\_\_  
SITE \_\_\_\_\_ STATE MT COUNTY SILVER BLW  
PURP \_\_\_\_\_ PREC \_\_\_\_\_ QUADNAME PIPESTONE PASS QUADCODE 4511274  
IN T/7W R/27 S/SW 4S/SE 4/4 COMMUNITY SIZE (acres) 10  
PLOT TYPES \_\_\_\_\_ PLTRL 50 ft PLOT W 10 ft SURVEY \_\_\_\_\_  
PHOTOS #12  
DIRECTIONS --> ca. 50 ft below spring on east side of  
spring creek

### CONSERVATION RANKING

COND \_\_\_\_\_ Com: \_\_\_\_\_  
VIAB \_\_\_\_\_ Com: \_\_\_\_\_  
DEFN \_\_\_\_\_ Com: \_\_\_\_\_  
RANK \_\_\_\_\_ Com: \_\_\_\_\_  
MGMT: \_\_\_\_\_  
PROT: \_\_\_\_\_

### ENVIRONMENTAL FEATURES

DL 6 SOIL RPT \_\_\_\_\_  
SOIL UNIT \_\_\_\_\_ SOIL TAXON \_\_\_\_\_  
PM SL LANDFORM ACTE PLOT POS MTE SLP SHAPE 5 ASP 225  
SLOPE % 2 ELEVATION 6930 EROS POTENT SA EROS TYPE NO  
HORIZON ANGLE (%): N \_\_\_\_\_ E \_\_\_\_\_ S \_\_\_\_\_ W \_\_\_\_\_ IFSLP \_\_\_\_\_ IFVAL \_\_\_\_\_  
SPFE \_\_\_\_\_  
GROUND COVER: T S+ 0 G+ 0 R+ 90 L+ T W+ 0 M+ 10 BV+ 0 O = 100%  
DISTURBANCE HISTORY (type, intensity, frequency, season) --> Site was grazed at time of sampling

RIPARIAN FEATURES: Channel Width 2 ft Channel Entrench \_\_\_\_\_  
Surface Water \_\_\_\_\_ Ht. Abv. H2O 1.0 Dist. from H2O \_\_\_\_\_

### GENERAL SITE DESCRIPTION (landscape features and adjacent ct's)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# OCULAR PLANT SPECIES DATA

PLTIDL

PLOT NO. 92 PL109 NO. SPECIES 29 PNC

TREES				FRBS			
Tot Cv	MHT			Tot Cv	MHT		
Tal Cv	Med Cv			Med Cv	Low Cv		
Low Cv	Grd Cv	CC		Grd Cv		CC	
T 1	/			F 1	/ TRI LON	10	
T 2	/			F 2	/ TAR OFF	60	
T 3	/			F 3	/ DOD CAL	1	
T 4	/			F 4	/ POT GRA	10	
T 5	/			F 5	/ ACH MIL	20	
				F 6	/ FRA VIR	20	
SHRBS	Tot Cv 20	MHT 1.0		F 7	/ CIR SEA	T	
	Tal Cv	Med Cv		F 8	/ AST OCC	10	
	Low Cv	Grd Cv	CC	F 9	/ EQU ARU	1	
S 1	/ POT FRU	20		F10	/ SIS ANG	1	
S 2	/ ART TRE	T		F11	/ SJE LON	T	
S 3	/ SAL PLA	T		F12	ariformis / RAN GER	T	
S 4	/			F13	/ TRI HYB	20	
S 5	/			F14	/ SEP FOE	T	
S 6	/			F15	/ VER AME	T	
S 7	/						
S 8	/						
S 9	/						
S10	/						
S11	/						
S12	/						
GRAM	Tot Cv 20	MHT 1.0					
	Med Cv	Low Cv					
	Grd Cv	CC					
G 1	/ JUN CAL	50					
G 2	/ DES CES	10					
G 3	/ AGR CAN	1					
G 4	/ FES RUB	T					
G 5	/ CAR PRA	10					
G 6	/ CAR ALR	T					
G 7	/ PHL ALP	T					
G 8	/ ALD ALP	T					
G 9	/ CAR IPA	T					
G10	/ CAR MIG	T					
G11	/ POA PRA	20					
G12	/						
				FERN Tot Cv 0 MHT Med Cv			
				Low Cv Grd Cv			
				BRYO/LICH Tot Cv 0			

COMMENTS (EODATA) -->

*Hesperis matronalis* var. *linearis*  
002

## COMMUNITY SURVEY FORM

MTNHP

5/27/91

### GENERAL PLOT DATA

#### IDENTIFICATION AND LOCATION

PLOT NO. 72 PL 118 MOD 8 DAY 01 MANUAL        UNITS X ft        m  
EXAMINER(S) LESLIE YEAR 92 ECODE        \*  
PNC        CT         
SITE        STATE MT COUNTY SILVER BOW  
PURP        PREC        QUADNAME MOUNT HUMBURG QUADCODE         
IN T/RW R/22 S/NW 4S/SE 4/4 COMMUNITY SIZE (acres) 30  
PLOT TYPES        PLTRL 35.8 PLOT W        SURVEY         
PHOTOS #20  
DIRECTIONS -->

#### CONSERVATION RANKING

COND        Com:         
VIAB        Com:         
DEFN        Com:         
RANK        Com:         
MGMT:         
PROT:       

#### ENVIRONMENTAL FEATURES

DL        SOIL RPT         
SOIL UNIT        SOIL TAXON         
PMGRBG        LANDFORM RMD PLOT POS AFM5 SLP SHAPE R ASP 190  
SLOPE % 5 ELEVATION 6940 EROS POTENT UP EROS TYPE WE  
HORIZON ANGLE (%): N        E        S        W        IFSLP        IFVAL         
SPFE         
GROUND COVER: 30 S+ T G+ 10 R+ 40 L+ T W+ 0 M+ 20 BV+ T O        = 100%  
DISTURBANCE HISTORY (type, intensity, frequency, season) --> Livestock - heavy

RIPARIAN FEATURES: Channel Width        Channel Entrench         
Surface Water        Ht. Abv. H2O        Dist. from H2O       

#### GENERAL SITE DESCRIPTION (landscape features and adjacent ct's)

sagebrush steppe between Pico forest above  
and Potpourri wetland below

# OCULAR PLANT SPECIES DATA

PltIDL\_\_\_\_\_

PLOT NO. <u>92 PL 118</u> NO. SPECIES <u>17</u> PNC _____			
TREES		Tot Cv <u>0</u> Mht _____ Tal Cv _____ Med Cv _____ Low Cv _____ Grd Cv _____	CC
T 1	/		
T 2	/		
T 3	/		
T 4	/		
T 5	/		
SHRBS		Tot Cv <u>20</u> Mht <u>2.0</u> Tal Cv _____ Med Cv _____ Low Cv _____ Grd Cv _____	CC
S 1	/ARTTRI	20	
S 2	/POTFRU	T	
S 3	/HAPMA	3	
S 4	/		
S 5	/		
S 6	/		
S 7	/		
S 8	/		
S 9	/		
S10	/		
S11	/		
S12	/		
GRAM		Tot Cv <u>60</u> Mht <u>0.5</u> Med Cv _____ Low Cv _____ Grd Cv _____	CC
G 1	/FESIDA	40	
G 2	/KOECAZ	1	
G 3	/JUNBAL	10	
G 4	/CARFEL	30	
G 5	/CARROS	3	
G 6	/AGR DAS	T	
G 7	/DANINT	1	
G 8	/		
G 9	/		
G10	/		
G11	/		
G12	/		
FRBS		Tot Cv <u>30</u> Mht <u>&lt;0.5</u> Med Cv _____ Low Cv _____ Grd Cv _____	CC
F 1	/GENTRI	10	
F 2	/ERIUMB	3	
F 3	/SELDEN	10	
F 4	/ANTMIC	3	
F 5	/ARECON	10	
F 6	/PENPRO	1	
F 7	/HAFINT	T	
F 8	/		
F 9	/		
F10	/		
F11	/		
F12	/		
F13	/		
F14	/		
F15	/		
FERN		Tot Cv <u>0</u> Mht _____ Med Cv _____ Low Cv _____ Grd Cv _____	
BRYO/LICH		Tot Cv <u>T</u>	

COMMENTS (EODATA) --> \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



*Drabache corymbosa*  
0000

# COMMUNITY SURVEY FORM

MTNHP

5/27/91

## GENERAL PLOT DATA

100-500 plants

## IDENTIFICATION AND LOCATION

PLOT NO. 92 PL 117 MO 7 DAY 29 MANUAL        UNITS X ft        m  
EXAMINER(S) LESLIE A EOCODE        \*  
PNC        CT         
SITE        STATE MT COUNTY MADISON  
PURP        PREC        QUADNAME TABLE MTN        QUADCODE         
2S T/ 7W R/ 12 S/ NE 4S / 4/4 COMMUNITY SIZE (acres) 40  
PLOT TYPES        PLTRL        PLOT W        SURVEY         
PHOTOS 7  
DIRECTIONS -->

## CONSERVATION RANKING

COND        Com:         
VIAB        Com:         
DEFN        Com:         
RANK        Com:         
MGMT:         
PROT:       

## ENVIRONMENTAL FEATURES

DL        SOIL RPT         
SOIL UNIT        SOIL TAXON         
PM        LANDFORM RMDC PLOT POS S4M5 SLP SHAPE 5 ASP 180  
SLOPE % 10 ELEVATION 6580 EROS POTENT UP EROS TYPE SE  
HORIZON ANGLE (%): N        E        S        W        IFSLP        IFVAL         
SPFE         
GROUND COVER: 30 S+ 30 G+ 0 R+ 20 L+ 1 W+ 0 M+ 10 BV+ 1 O        = 100%  
DISTURBANCE HISTORY (type, intensity, frequency, season)-->         
Livestock

RIPARIAN FEATURES: Channel Width        Channel Entrench         
Surface Water        Ht. Abv. H2O        Dist. from H2O       

## GENERAL SITE DESCRIPTION (landscape features and adjacent ct's)

P5ME adjacent

# OCULAR PLANT SPECIES DATA

PltIDL

PLOT NO. <u>72 PL 117</u> NO. SPECIES <u>20</u> PNC			
TREES Tot Cv <u>0</u> Mht <u>    </u>		FRBS Tot Cv <u>20</u> Mht <u>&lt;0.5</u>	
Tal Cv <u>    </u> Med Cv <u>    </u>		Med Cv <u>    </u> Low Cv <u>    </u>	
Low Cv <u>    </u> Grd Cv <u>    </u> CC		Grd Cv <u>    </u> CC	
T 1	/	F 1	/ ERISTR 1
T 2	/	F 2	/ ERICOM 10
T 3	/	F 3	/ ANTHIC 3
T 4	/	F 4	/ ARECON 1
T 5	/	F 5	/ ORDCOR T
		F 6	/ CASPAL T
		F 7	/ COMUMB T
		F 8	/ ORDFAS T
		F 9	/ BRACHOL T
		F 10	/ PENARI T
S 1	/ ARTITRE 50	F 11	/ SELDEN 1
S 2	/ CHRNAV T	F 12	/ CREACH T
S 3	/	F 13	/ PHLLON T
S 4	/	F 14	/ HAPACA T
S 5	/	F 15	/ SEDLAN 1
S 6	/		
S 7	/		
S 8	/		
S 9	/		
S 10	/		
S 11	/		
S 12	/		
GRAM Tot Cv <u>20</u> Mht <u>1.6</u>			
Med Cv <u>    </u> Low Cv <u>    </u>			
Grd Cv <u>    </u> CC			
G 1	/ POASEC 10		
G 2	/ FESIDA 10		
G 3	/ AGRSPI 1		
G 4	/		
G 5	/		
G 6	/		
G 7	/		
G 8	/		
G 9	/		
G 10	/		
G 11	/		
G 12	/		
		FERN Tot Cv <u>0</u> Mht <u>    </u> Med Cv <u>    </u>	
		Low Cv <u>    </u> Grd Cv <u>    </u>	
		BRYO/LICH Tot Cv <u>1</u>	

COMMENTS (EODATA) -->

GENERAL SITE DESCRIPTION (landscape features and adjacent ct's)

## PltIDL

COMMENTS (EODATA) -->

# COMMUNITY SURVEY FORM

MTNHP  
5/27/91

## GENERAL PLOT DATA

### IDENTIFICATION AND LOCATION

PLOT NO. 92 PL III MO 06 DAY 30 MANUAL \_\_\_\_\_ UNITS ✓ ft \_\_\_\_\_ m  
EXAMINER(S) LESLICA YEAR 92 ECODE \_\_\_\_\_ \*  
PNC \_\_\_\_\_ CT \_\_\_\_\_  
SITE \_\_\_\_\_ STATE MT COUNTY SILVER BOW  
PURP \_\_\_\_\_ PREC \_\_\_\_\_ QUADNAME MOUNT HUMBURG QUADCODE 4511275  
15 T/7N/R/6 S/NE 4S/SW 4/4 COMMUNITY SIZE (acres) \_\_\_\_\_  
PLOT TYPES \_\_\_\_\_ PLTRL 35.8 PLOT W \_\_\_\_\_ SURVEY \_\_\_\_\_  
PHOTOS +16  
DIRECTIONS -->

### CONSERVATION RANKING

COND \_\_\_\_\_ Com: \_\_\_\_\_  
VIAB \_\_\_\_\_ Com: \_\_\_\_\_  
DEFN \_\_\_\_\_ Com: \_\_\_\_\_  
RANK \_\_\_\_\_ Com: \_\_\_\_\_  
MGMT: \_\_\_\_\_  
PROT: \_\_\_\_\_

### ENVIRONMENTAL FEATURES

DL F SOIL RPT \_\_\_\_\_  
SOIL UNIT \_\_\_\_\_ SOIL TAXON \_\_\_\_\_  
PMMEU LANDFORM RMD PLOT POS SLMS SLP SHAPE U ASP 260  
SLOPE % 50 ELEVATION 7640 EROS POTENT UD EROS TYPE SL  
HORIZON ANGLE (%): N \_\_\_\_\_ E \_\_\_\_\_ S \_\_\_\_\_ W \_\_\_\_\_ IFSLP \_\_\_\_\_ IFVAL \_\_\_\_\_  
SPFE \_\_\_\_\_  
GROUND COVER: 30 S+10 G+30 R+10 L+3 W+0 M+10 BV+6 O = 100%  
DISTURBANCE HISTORY (type, intensity, frequency, season)-->  
Road building, gopher activity and shallow soil over bedrock  
combine to cause slumping

RIPARIAN FEATURES: Channel Width \_\_\_\_\_ Channel Entrench \_\_\_\_\_  
Surface Water \_\_\_\_\_ Ht. Abv. H2O \_\_\_\_\_ Dist. from H2O \_\_\_\_\_

### GENERAL SITE DESCRIPTION (landscape features and adjacent ct's)

FESTIDA - BROCAR grassland / PSEMEN park above

## OCULAR PLANT SPECIES DATA

PltidL

PLOT NO. <u>92 PL III</u> NO. SPECIES <u>43</u> PNC			
TREES Tot Cv <u>10</u> Mht <u>30</u>		FRBS Tot Cv <u>10</u> Mht <u>&lt;0.5</u>	
Tal Cv _____ Med Cv _____		Med Cv _____ Low Cv _____	
Low Cv _____ Grd Cv _____		Grd Cv _____	
CC		CC	
T 1	/BEMEN	10	
T 2	/		
T 3	/		
T 4	/		
T 5	/		
SHRBS Tot Cv <u>0</u> Mht _____		F 1	
Tal Cv _____ Med Cv _____		/LUPSER	
Low Cv _____ Grd Cv _____		1	
CC		F 2	
S 1	/		/COLLIN
S 2	/		30
S 3	/		F 3
S 4	/		/PHLLON
S 5	/		10
S 6	/		F 4
S 7	/		/ANTHAC
S 8	/		T
S 9	/		F 5
S 10	/		/ARABOL
S 11	/		T
S 12	/		F 6
			/LOMTAI
			T
			F 7
			/SERVIS
			1
			F 8
			/PHAHAS
			10
			F 9
			/ALLCER
			T
			F 10
			/CREATR
			T
			F 11
			/GRUCOR
			T
			F 12
			/SEDLAN
			T
			F 13
			/ACHMIL
			3
			F 14
			/EPIANG
			1
			F 15
			/TAROFF
			3
			/FRAUTR
			3
			/PENPRO
			T
			/ERYREP
			T
			/PENLEM
			T
			/COLPAR
			1
			/TRADUR
			T
			/ARTDRA
			1
			/ONOMOL
			T
			/DELBEC
			3
			/ASTMIS
			20
			/CENTRI
			1
			/CHEAIB
			3
			/ARADRU
			T
			/POTGLA
			1
			/ZIGVEN
			T
			/LINSEP
			3
			/ABOGLA
			T
			/ERIUMB
			T
			/SENCRA
			T
			POTGRA
			1
GRAM Tot Cv <u>30</u> Mht <u>2.0</u>		FERN Tot Cv <u>0</u> Mht _____	
Med Cv _____ Low Cv _____		Med Cv _____	
Grd Cv _____		Low Cv _____	
CC		Grd Cv _____	
G 1	/AGRSPI	20	
G 2	/AGRCAN	1	
G 3	/FESIDA	3	
G 4	/BROCAR	3	
G 5	/POAPPA	3	
G 6	/STIOCC	1	
G 7	/KOCRI	1	
G 8	/		
G 9	/		
G 10	/		
G 11	/		
G 12	/		
BRYO/LICH Tot Cv <u>0</u>			

COMMENTS (EODATA) --&gt;

# COMMUNITY SURVEY FORM

MTNHP

5/27/91

## GENERAL PLOT DATA

### IDENTIFICATION AND LOCATION

PLOT NO. 92. PL 107 MO 06 DAY 28 MANUAL \_\_\_\_\_ UNITS X ft \_\_\_\_\_ m  
EXAMINER(S) Lesica EOCODE \_\_\_\_\_ \*  
PNC \_\_\_\_\_ CT \_\_\_\_\_  
SITE \_\_\_\_\_ STATE MT COUNTY Silver Bow  
PURP \_\_\_\_\_ PREC \_\_\_\_\_ QUADNAME MOUNT HUMBURG QUADCODE 4511275  
IN T/7W R/ 32S/5W 4S/5W 4/4 COMMUNITY SIZE (acres) 70  
PLOT TYPES \_\_\_\_\_ PLTRL \_\_\_\_\_ PLOT W \_\_\_\_\_ SURVEY \_\_\_\_\_  
PHOTOS \_\_\_\_\_  
DIRECTIONS --> \_\_\_\_\_

### CONSERVATION RANKING

COND B Com: \_\_\_\_\_  
VIAB B Com: \_\_\_\_\_  
DEFN B Com: \_\_\_\_\_  
RANK B Com: \_\_\_\_\_  
MGMT: \_\_\_\_\_  
PROT: \_\_\_\_\_

### ENVIRONMENTAL FEATURES

DL F SOIL RPT \_\_\_\_\_  
SOIL UNIT \_\_\_\_\_ SOIL TAXON \_\_\_\_\_  
PM METU LANDFORM RMD5 PLOT POS SLM5 SLP SHAPE D ASP 50°  
SLOPE % 30 ELEVATION 7810 EROS POTENT UD EROS TYPE SL  
HORIZON ANGLE (%): N \_\_\_\_\_ E \_\_\_\_\_ S \_\_\_\_\_ W \_\_\_\_\_ IFSLP \_\_\_\_\_ IFVAL \_\_\_\_\_  
SPFE \_\_\_\_\_  
GROUND COVER: 50 S+ 10 G+ 3 R+ 30 L+ 0 W+ 0 M+ 10 BV+ 0 = 100%  
DISTURBANCE HISTORY (type, intensity, frequency, season) --> \_\_\_\_\_  
Old prospects and gophers cause slumping.

RIPARIAN FEATURES: Channel Width \_\_\_\_\_ Channel Entrench \_\_\_\_\_  
Surface Water \_\_\_\_\_ Ht. Abv. H2O \_\_\_\_\_ Dist. from H2O \_\_\_\_\_

### GENERAL SITE DESCRIPTION (landscape features and adjacent ct's)

Area disturbed by mining and gophers

# OCULAR PLANT SPECIES DATA

PLTIDL

PLOT NO. 92P4107 NO. SPECIES 42+ PNC

TREES Tot Cv 7 Mht 2.0  
Tal Cv \_\_\_\_\_ Med Cv \_\_\_\_\_  
Low Cv \_\_\_\_\_ Grd Cv \_\_\_\_\_ CC

T 1 / PINAUB 7  
T 2 /  
T 3 /  
T 4 /  
T 5 /

SHRBS Tot Cv 7 Mht <  
Tal Cv \_\_\_\_\_ Med Cv \_\_\_\_\_  
Low Cv \_\_\_\_\_ Grd Cv \_\_\_\_\_ CC

S 1 / BERREP 7  
S 2 /  
S 3 /  
S 4 /  
S 5 /  
S 6 /  
S 7 /  
S 8 /  
S 9 /  
S10 /  
S11 /  
S12 /

GRAM Tot Cv 20 Mht 2.0  
Med Cv \_\_\_\_\_ Low Cv \_\_\_\_\_  
Grd Cv \_\_\_\_\_ CC

G 1 / AGRSPI 10  
G 2 / KOECRI 3  
G 3 / FESIDA 3  
G 4 / STIOU 3  
G 5 / BRDCOM 7  
G 6 / PBASEL 7  
G 7 /  
G 8 /  
G 9 /  
G10 /  
G11 /  
G12 /

FRBS Tot Cv 60 Mht 0.5  
Med Cv \_\_\_\_\_ Low Cv \_\_\_\_\_  
Grd Cv \_\_\_\_\_ CC

F 1 / MEROBL 1  
F 2 / TOWPAR 7  
F 3 / ERI FIA 7  
F 4 / NAPPAA 3  
F 5 / COMMUB 3  
F 6 / PHAHAS 10  
F 7 / LINPER 16  
F 8 / ALLCER 7  
F 9 / PHYGEY 1  
F10 / SEDLAN 1  
F11 / ARAMOL 7  
F12 / ASTMIS 3  
F13 / PIK LON 10  
F14 / ANTUMB 10  
F15 / CERARU 1  
/ PEDCON 7  
/ CAS PAC 3  
/ PENPRO 7  
/ PENLEM 7  
/ DELBIC 10  
/ GERVIS 7  
/ SENCRA 7  
/ ARECAP 1  
/ ZIGVEN 7  
/ ABA DRU 7  
/ ERI PHD 7  
/ COLLIN 1  
/ ANE PAT 7  
/ GEU TRI 1  
/ ERI SIM 7  
/ DODCON 7  
/ AGOGLA 1  
/ LOM TRI 7  
/ GAIARI 3

FERN Tot Cv 0 Mht \_\_\_\_\_ Med Cv \_\_\_\_\_  
Low Cv \_\_\_\_\_ Grd Cv \_\_\_\_\_  
BRYO/LICH Tot Cv 0

COMMENTS (EODATA) -->



# COMMUNITY SURVEY FORM

MTNHP

5/27/91

## GENERAL PLOT DATA

### IDENTIFICATION AND LOCATION

PLOT NO. 92 PL45 MO 07 DAY 11 MANUAL \_\_\_\_\_ UNITS X ft \_\_\_\_\_ m  
EXAMINER(S) LESLIE YEAR 92 EOCODE \_\_\_\_\_ \*  
PNC \_\_\_\_\_ CT \_\_\_\_\_  
SITE \_\_\_\_\_ STATE MT COUNTY SILVER BOW  
PURP \_\_\_\_\_ PREC \_\_\_\_\_ QUADNAME MOUNT HUMBURG QUADCODE 4511775  
15 T/ 8W/R/ 4 S/ SW4S/NE4/4 COMMUNITY SIZE (acres) 1-2  
PLOT TYPES \_\_\_\_\_ PLTRL 35.8 PLOT W \_\_\_\_\_ SURVEY \_\_\_\_\_  
PHOTOS #34  
DIRECTIONS --> \_\_\_\_\_

### CONSERVATION RANKING

COND \_\_\_\_\_ Com: \_\_\_\_\_  
VIAB \_\_\_\_\_ Com: \_\_\_\_\_  
DEFN \_\_\_\_\_ Com: \_\_\_\_\_  
RANK \_\_\_\_\_ Com: \_\_\_\_\_  
MGMT: \_\_\_\_\_  
PROT: \_\_\_\_\_

### ENVIRONMENTAL FEATURES

DL \_\_\_\_\_ SOIL RPT \_\_\_\_\_  
SOIL UNIT \_\_\_\_\_ SOIL TAXON \_\_\_\_\_  
PM METU LANDFORM RMD5 PLOT POS 5LL5 SLP SHAPE D ASP 80  
SLOPE % 35 ELEVATION 6850 EROS POTENT LP EROS TYPE SE  
HORIZON ANGLE (%): N \_\_\_\_\_ E \_\_\_\_\_ S \_\_\_\_\_ W \_\_\_\_\_ IFSLP \_\_\_\_\_ IFVAL \_\_\_\_\_  
SPFE \_\_\_\_\_  
GROUND COVER: 10 S+ 50 G+ 20 R+ 3 L+ 0 W+ 10 M+ 3 BV+ 10 O = 100%  
DISTURBANCE HISTORY (type, intensity, frequency, season) --> Livestock grazing

RIPARIAN FEATURES: Channel Width \_\_\_\_\_ Channel Entrench \_\_\_\_\_  
Surface Water \_\_\_\_\_ Ht. Abv. H2O \_\_\_\_\_ Dist. from H2O \_\_\_\_\_

### GENERAL SITE DESCRIPTION (landscape features and adjacent ct's)

Parent material is calcareous metasediment

## OCULAR PLANT SPECIES DATA

PitIDL

PLOT NO. 72 PL 115 NO. SPECIES 32 INC

TREES				FRBS			
Tot Cv	Mht	Tal Cv	Med Cv	Tot Cv	Mht	Med Cv	Low Cv
Low Cv	Grd Cv	CC		Grd Cv	CC		
T 1	/			F 1	/	PEDCON	T
T 2	/			F 2	/	PENLEM	1
T 3	/			F 3	/	HAPACA	10
T 4	/			F 4	/	ARA HOL	1
T 5	/			F 5	/	MACCAN	3
				F 6	/	ALLCER	1
SHRBS	Tot Cv <u>10</u>	Mht <u>1.5</u>		F 7	/	ANTMIC	10
	Tal Cv	Med Cv		F 8	/	FRIFLA	T
	Low Cv	Grd Cv	CC	F 9	/	CASPAL	1
S 1	/	CHRNAU	10	F10	/	LITRUO	T
S 2	/	ART TAL	3	F11	/	GENCAN	1
S 3	/	CHRVIS	T	F12	/	GAIARI	1
S 4	/	POTFRU	T	F13	/	ANENUT	T
S 5	/			F14	/	SMISTE	T
S 6	/			F15	/	FRA SPE	T
S 7	/				/	SEDCAN	T
S 8	/				/	AMITIC	1
S 9	/				/	MEROBL	1
S10	/				/	ART DRA	T
S11	/				/	PENIRO	T
S12	/				/		
GRAM	Tot Cv <u>30</u>	Mht <u>0.5</u>			/		
	Med Cv	Low Cv			/		
	Grd Cv	CC			/		
G 1	/	POA SEC	3		/		
G 2	/	STICOM	3		/		
G 3	/	FESIDA	20		/		
G 4	/	AGRSPI	10		/		
G 5	/	CALMON	1		/		
G 6	/	CAR ROS	T		/		
G 7	/	KOECRE	T		/		
G 8	/	STIDCC	T		/		
G 9	/				/		
G10	/				/		
G11	/				/		
G12	/				/		
				FERN Tot Cv <u>0</u> Mht <u></u> Med Cv <u></u>			
				Low Cv <u></u> Grd Cv <u></u>			
				BRYO/LICH Tot Cv <u>20</u>			

COMMENTS (EODATA) --&gt;

Saxifraga tempestiva  
014

# COMMUNITY SURVEY FORM

MTNHP

5/27/91

## GENERAL PLOT DATA

### IDENTIFICATION AND LOCATION

PLOT NO. 9294114 MO 07 DAY 06 MANUAL        UNITS X ft        m  
EXAMINER(S) LESLIE A YEAR 92 EOCODE        \*  
PNC        CT         
SITE        STATE MT COUNTY MADISON  
PURP        PREC        QUADNAME TABLE MTN QUADCODE         
15 T/ 7W R/ 16 S/ 5N 4S/ 5E 4/4 COMMUNITY SIZE (acres) < 1  
PLOT TYPES        PLTRL 10 PLOT W        SURVEY         
PHOTOS         
DIRECTIONS -->

### CONSERVATION RANKING

COND        Com:         
VIAB        Com:         
DEFN        Com:         
RANK        Com:         
MGMT:         
PROT:       

### ENVIRONMENTAL FEATURES

DL        SOIL RPT         
SOIL UNIT        SOIL TAXON         
PM QUAR LANDFORM ARCH PLOT POS SLUS SLP SHAPE D ASP 215  
SLOPE % 10 ELEVATION 9480 EROS POTENT SA EROS TYPE NO  
HORIZON ANGLE (%): N        E        S        W        IFSLP        IFVAL         
SPFE         
GROUND COVER: 10 S+ 3 G+ 30 R+ 40 L+ 0 W+ 0 M+ 10 BV+ 10 O        = 100%  
DISTURBANCE HISTORY (type, intensity, frequency, season)-->       

RIPARIAN FEATURES: Channel Width        Channel Entrench         
Surface Water        Ht. Abv. H2O        Dist. from H2O       

### GENERAL SITE DESCRIPTION (landscape features and adjacent ct's)

## OCULAR PLANT SPECIES DATA

PltIDL \_\_\_\_\_

PLOT NO. _____		NO. SPECIES <u>22</u>		PNC _____	
TREES		Tot Cv <u>0</u>	Mht _____		
		Tal Cv _____	Med Cv _____		
		Low Cv _____	Grd Cv _____	CC	
T 1	/				
T 2	/				
T 3	/				
T 4	/				
T 5	/				
SHRBS		Tot Cv <u>0</u>	Mht _____		
		Tal Cv _____	Med Cv _____		
		Low Cv _____	Grd Cv _____	CC	
S 1	/				
S 2	/				
S 3	/				
S 4	/				
S 5	/				
S 6	/				
S 7	/				
S 8	/				
S 9	/				
S10	/				
S11	/				
S12	/				
GRAM		Tot Cv <u>40</u>	Mht <u>4</u>		
		Med Cv _____	Low Cv _____		
		Grd Cv _____		CC	
G 1	/CARPHA	10			
G 2	/CARICY	20			
G 3	/FFSOWI	1			
G 4	/LUZSPJ	10			
G 5	/POARUP	1			
G 6	/TRISPT	1			
G 7	/CARSCI	3			
G 8	/				
G 9	/				
G10	/				
G11	/				
G12	/				
		FERN Tot Cv _____ Mht _____ Med Cv _____			
		Low Cv _____ Grd Cv _____			
		BRYO/LICH Tot Cv <u>10</u>			

COMMENTS (EODATA) ---&gt; \_\_\_\_\_

 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

*Thlaspi pacificum*  
007

# COMMUNITY SURVEY FORM

MTNHP

5/27/91

## GENERAL PLOT DATA

### IDENTIFICATION AND LOCATION

PLOT NO. 92 PL112 MO 06 DAY 30 MANUAL \_\_\_\_\_ UNITS X ft \_\_\_\_\_ m  
EXAMINER(S) LESICA YEAR 92 EOCODE \_\_\_\_\_ \*  
PNC \_\_\_\_\_ CT \_\_\_\_\_  
SITE \_\_\_\_\_ STATE MT COUNTY SILVER BOLD  
PURP \_\_\_\_\_ PREC \_\_\_\_\_ QUADNAME MOUNT HUMBURG QUADCODE 4511275  
IS T/8W R/1 S/NW4S/NW4/4 COMMUNITY SIZE (acres) 20  
PLOT TYPES \_\_\_\_\_ PLTRL 35.8 PLOT W \_\_\_\_\_ SURVEY \_\_\_\_\_  
PHOTOS #17  
DIRECTIONS --> \_\_\_\_\_

### CONSERVATION RANKING

COND \_\_\_\_\_ Com: \_\_\_\_\_  
VIAB \_\_\_\_\_ Com: \_\_\_\_\_  
DEFN \_\_\_\_\_ Com: \_\_\_\_\_  
RANK \_\_\_\_\_ Com: \_\_\_\_\_  
MGMT: \_\_\_\_\_  
PROT: \_\_\_\_\_

### ENVIRONMENTAL FEATURES

DL 5 SOIL RPT \_\_\_\_\_  
SOIL UNIT \_\_\_\_\_ SOIL TAXON \_\_\_\_\_  
PM PLIAL LANDFORM ACTE PLOT POS WTE SLP SHAPE 5 ASP 285  
SLOPE % 5 ELEVATION 6950 EROS POTENT SA EROS TYPE NO  
HORIZON ANGLE (%): N \_\_\_\_\_ E \_\_\_\_\_ S \_\_\_\_\_ W \_\_\_\_\_ IFSLP \_\_\_\_\_ IFVAL \_\_\_\_\_  
SPFE \_\_\_\_\_  
GROUND COVER: 3 S+ 0 G+ 0 R+ 90 L+ 7 W+ 7 M+ 10 BV+ 0 O = 100%  
DISTURBANCE HISTORY (type, intensity, frequency, season)--> Cattle graze the area

RIPARIAN FEATURES: Channel Width \_\_\_\_\_ Channel Entrench \_\_\_\_\_  
Surface Water \_\_\_\_\_ Ht. Abv. H2O \_\_\_\_\_ Dist. from H2O \_\_\_\_\_

### GENERAL SITE DESCRIPTION (landscape features and adjacent ct's)

Purcon forest above  
Salix stringer below

## OCULAR PLANT SPECIES DATA

PltID# \_\_\_\_\_

PLOT NO. 92 PL 112 NO. SPECIES 32 PNC \_\_\_\_\_

TREES				FRBS			
Tot	Cv	Mht		Tot	Cv	Mht	
Tal	Cv	Med		Med	Cv	Low	
Low	Cv	Grd	CC	Grd	Cv		CC
T 1	/			F 1	/	TAROFF	40
T 2	/			F 2	/	POTGRA	3
T 3	/			F 3	/	POTDIU	50
T 4	/			F 4	/	ACHMIL	20
T 5	/			F 5	/	POLBES	3
				F 6	/	PERGAI	1
SHERBS	Tot	Cv	Mht	F 7	/	DODPUL	1
	Tal	Cv	Med	F 8	/	PENPRO	T
	Low	Cv	Grd	F 9	/	CIRXA	T
			CC	F10	/	STECAL	1
S 1	/	POTFAU	20	F11	/	ANTCOB	1
S 2	/			F12	/	ASTFOL	1
S 3	/			F13	/	TAILOM	1
S 4	/			F14	/	ARNCHA	T
S 5	/			F15	/	CREKUN	1
S 6	/				/	ALLGEY	T
S 7	/				/	ARADPU	T
S 8	/				/	DRADEN	T
S 9	/				/	THLPAR	T
S10	/				/	ASTOL	
S11	/				/		
S12	/				/		
GRAM	Tot	Cv	Mht				
	Med	Cv	Low				
	Grd	Cv	CC				
G 1	?	/	POAJUN	30			
G 2		/	JUNBAL	10			
G 3		/	AGRSCA	1			
G 4		/	POAPRA	30			
G 5		/	ALO PRA	T			
G 6		/	CABPRA	3			
G 7		/	ALO ALP	T			
G 8		/	DESCES	1			
G 9		/	PHLALP	1			
G10		/	PARCEA	1			
G11		/	ST-CC	T			
G12		/	Y-CCF	T			
				FERN Tot Cv <u>0</u> Mht <u></u> Med Cv <u></u>			
				Low Cv <u></u> Grd Cv <u></u>			
				BRYO/LICH Tot Cv <u>0</u>			

COMMENTS (EODATA) --&gt; \_\_\_\_\_

*Thlaspi perfoliatum*  
008

# COMMUNITY SURVEY FORM

MTNHP

5/27/91

## GENERAL PLOT DATA

### IDENTIFICATION AND LOCATION

PLOT NO. 92PL104 MO 06 DAY 26 MANUAL        UNITS x ft        m  
EXAMINER(S) LESICA YEAR 92 EOCODE        \*  
PNC        CT         
SITE        STATE        COUNTY         
PURP        PREC        QUADNAME MOUNT HUMBURG QUADCODE 4511275  
1N T/7W R/31 S/5u/4S/NE4/4 COMMUNITY SIZE (acres) 20  
PLOT TYPES        PLTRL        PLOT W        SURVEY         
PHOTOS         
DIRECTIONS -->

### CONSERVATION RANKING

COND        Com:         
VIAB        Com:         
DEFN        Com:         
RANK        Com:         
MGMT:         
PROT:       

### ENVIRONMENTAL FEATURES

DL 5 SOIL RPT         
SOIL UNIT        SOIL TAXON         
PMGRBG        LANDFORM RMD PLOT POS W/VAF SLP SHAPE 5 ASP 12.0  
SLOPE % 5 ELEVATION 7350 EROS POTENT 5A EROS TYPE NO  
HORIZON ANGLE (°): N        E        S        W        IFSLP        IFVAL         
SPFE         
GROUND COVER: 10 S+ 0 G+ 0 R+ 80 L+ T W+ T M+ 10 BV+ 0 O = 100%  
DISTURBANCE HISTORY (type, intensity, frequency, season)-->         
Ground is riddled with pocket gopher holes  
Area has been grazed by livestock

RIPARIAN FEATURES: Channel Width        Channel Entrench         
Surface Water        Ht. Abv. H2O        Dist. from H2O       

### GENERAL SITE DESCRIPTION (landscape features and adjacent ct's)

adjacent to mesic PINCON stand and  
ARTTRI/FESIDA above

## PltIDL

FRBS Tot Cv 20 MHE 1.0  
Med Cv      Low Cv       
Grd Cv     

F 1	/R0061A	1
F 2	/R0161A	T
F 3	/TAR0FF	50
F 4	/B001L	1
F 5	/SE00RA	T
F 6	/P0161A	20

F 7	/LUPSER	10
F 8	/COLLIN	7
F 9	/CERARI	20
F10	/PERGAI	3

F11	/ DEL BIC	T
F12	/ ARAGA	T
F13	/ LOMTAT	T
F14	/ COLPAR	T
F15	/ PENPRO	T
	/ PHA FRA	T
	/ POL BIS	I
	/ LIT PAR	T
	/ ARECAP	T
L	/ GIUTRI	T
	/ YERSER	T
	/ RUMPAU	T
	/ ALLGEY	T
	/ ARADRU	T
	/ THU PAR	T

/	GRADU	T
/	TH PAR	T
/		

[illegible]

FERN Tot Cv 0 MHT      Med Cv       
 Low Cv      Grd Cv       
 BRYO/LICH Tot Cv 0

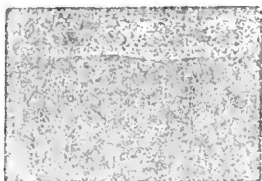
COMMENTS (EODATA) -->



Appendix D. Photographs of sensitive species and species of special concern located in the Highland Mountains.



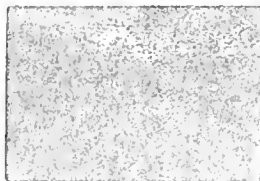
Moose Town



Decid. N.F.

Silver Bow Co.  
June 1992 92PL101

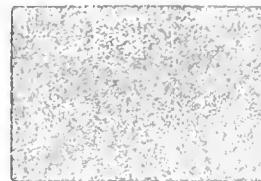
Moose Town



Decid. N.F.

Silver Bow Co.  
June 1992 92PL103

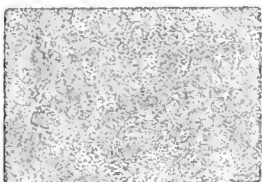
Tucker Creek



Decid. N.F.

Silver Bow Co.  
June 1992 92PL105

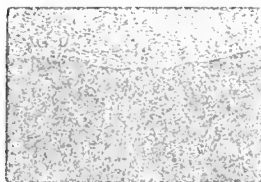
*Arabis fecunda* site  
Tucker Creek



Decid. N.F.

Silver Bow Co.  
June 1992 92PL106

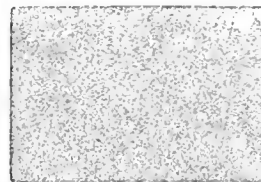
*Arabis fecunda* site  
Tucker Creek



Decid. N.F.

Silver Bow Co.  
June 1992 92PL106

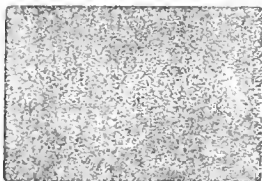
*Arabis fecunda* site  
Highland City



Decid. N.F.

Silver Bow Co.  
June 1992 92PL108

*Arabis fecunda* site  
Highland City



Decid. N.F.

Silver Bow Co.  
June 1992 92PL110

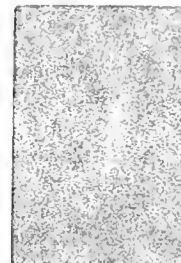
*Arabis fecunda* site  
Humboldt Spire



PL

Silver Bow Co.  
June 1992

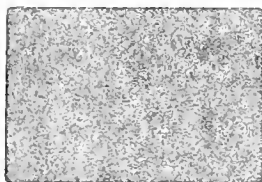
Tucker Creek  
Silver Bow Co.  
June 1992



*Carex parryana*  
Idaho

Decid. N.F.

*Carex parryana* Idaho  
Highland City site



Decid. N.F.

Silver Bow Co.  
June 1992 92PL109

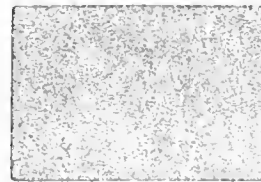
*Carex parryana* Idaho  
Moose Town site



Decid. N.F.

Silver Bow Co.  
June 1992 92PL114

*Carex parryana* Idaho  
Tucker Creek site



Decid. N.F.

Silver Bow Co.  
June 1992

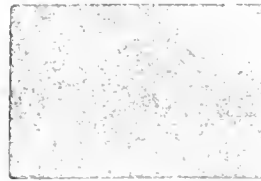
*Erigeron gracilis*  
Highland City



Decid. N.F.

Silver Bow Co.

*Erigeron gracilis*  
Moose Town

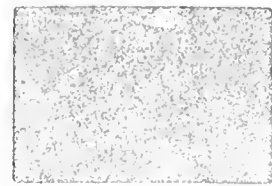


Decid. N.F.

Silver Bow Co.



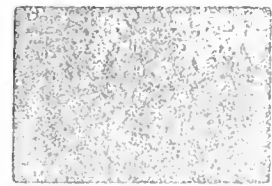
*Pentstemon leucianthus*  
Moose Town site



Deer Lodge NF

Silver Bow Co.  
June 1992 92PL115

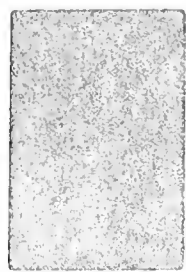
*Pentstemon leucianthus*  
Moose Town site



Deer Lodge NF

Silver Bow Co.  
June 1992 92PL111

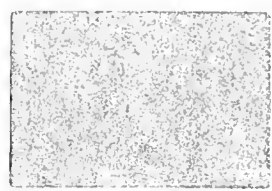
*Pentstemon leucianthus*  
Moose Town



Deer Lodge NF

Silver Bow Co.  
June 1992

*Saxifraga tempestiva*  
Table Mt. site



Deer Lodge NF

Silver Bow Co.  
June 1992 PL

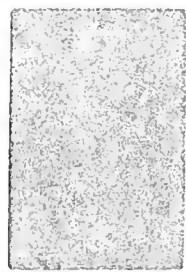
*Saxifraga tempestiva*  
Table Mt.



Deer Lodge NF

Silver Bow Co.  
June 1992 PL

*Pentstemon leucianthus*  
Moose Town



Deer Lodge NF

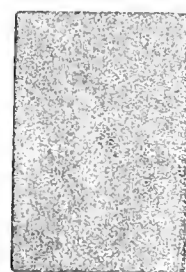
*Thlaspi parviflorum*  
Moose Town



Deer Lodge NF

Silver Bow Co.  
June 1992 92PL112

*Thlaspi parviflorum*  
Moose Town



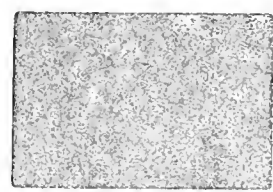
Deer Lodge NF

*Thlaspi parviflorum*  
Moose Town



Deer Lodge NF

*Thlaspi parviflorum*  
Moose Town site



Deer Lodge NF

Silver Bow Co.  
June 1992 92PL104



